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CONTENTS AND SUBJECT INDEX

SPECIAL ARTICLES:

- The Incidence and Treatment of the Complications of Chronic Gastric Ulcer.** By Donald C. Balfour, Rochester, Minnesota..... 177
- The General Practitioner.** By James B. Herrick, Chicago, Illinois..... 179
- Observations on Blood Sedimentation in Tuberculous Patients.** By Robert A. Peers, Charles J. Durand, and Thomas C. O'Connor, Jr., Colfax..... 185
- A Discussion of Three Cases of Bilateral Kidney Calculi.** By L. I. Oppenheimer, Oakland..... 190
- Discussion by W. F. Braasch, Rochester, Minnesota; George G. Reinle, Oakland; James A. Dillon, San Francisco.
- Chronic Heart Disease Complicating Pregnancy.** By Robert William Langley, Los Angeles..... 193
- Discussion by Norman H. Williams, Los Angeles; Lyle G. McNeile, Los Angeles.
- Progress in Medicine on the Pacific Coast During 1926-27.** By P. J. Hanzlik 196
- The Treatment of Empyema.** By E. Eric Larson, Woodland..... 199
- Discussion by Leo Eloesser, San Francisco; Charles E. Phillips, Los Angeles; Ben E. Grant, Los Angeles.
- Cervicitis, With Special Reference to Its Treatment.** By William E. Hunter, Salt Lake City, Utah..... 204
- Discussion by Fred R. Fairchild, Woodland; J. U. Giesy, Salt Lake City, Utah.
- Back Pain of Urologic Origin.** By Adolph A. Kutzmann, Los Angeles.. 208
- Discussion by Robert V. Day, Los Angeles; Frank Hinman, San Francisco; A. Gottlieb, Los Angeles; L. P. Player, San Francisco.
- A Clinical Interpretation of Pulse Pressure.** By J. Marion Read, San Francisco 211
- The Indications for Surgery in the Treatment of Hay Fever and Asthma.** By Samuel H. Hurwitz, San Francisco 212
- Discussion by Wallace Bruce Smith, San Francisco; Irwin C. Schumacher, San Francisco; Harold A. Fletcher, San Francisco.

- Advantages of Ethylene-Oxygen As a General Anesthetic.** By George A. Johnstone, Glendale..... 216

BEDSIDE MEDICINE:

- The Treatment of Ringworm**..... 219
- Discussion by Samuel Ayres, Jr., Los Angeles; Hiram E. Miller, San Francisco; Moses Scholtz, Los Angeles; Ernest K. Stratton, San Francisco.

EDITORIALS:

- Doctors and Community Chests..... 222
- A Public Health Institute..... 223
- Should Public Health Boards Be Composed of Laymen or of Physicians?.. 224
- Proposed Amendments to the Constitution and By-Laws of the C. M. A. 225

MEDICINE TODAY:

- Disease of the Nasal Accessory Sinuses, Clinton A. Burrows, Los Angeles; Common Colds, Philip H. Pierson, San Francisco; Physical Therapeutics—Deep Heat—Diathermy, Fred B. Moor, Loma Linda; Coronary Thrombosis, William H. Leake, Los Angeles; Skin Infections of Palms and Soles (Dermatomy-cosis), Harry E. Alderson, San Francisco 226-228

STATE MEDICAL ASSOCIATIONS:

- California Medical Association..... 229
- Utah State Medical Association..... 230

MISCELLANY:

- Comment on Current Articles..... 239
- News 241
- Readers' Forum..... 243
- Constitution and By-Laws and Proposed Changes..... 244
- Directory of Medical Organizations..146-148
- Books Received..... 266
- Book Reviews..... 266
- Truth About Medicines..... 294

ADVERTISEMENTS:

- See Index on Page..... 150

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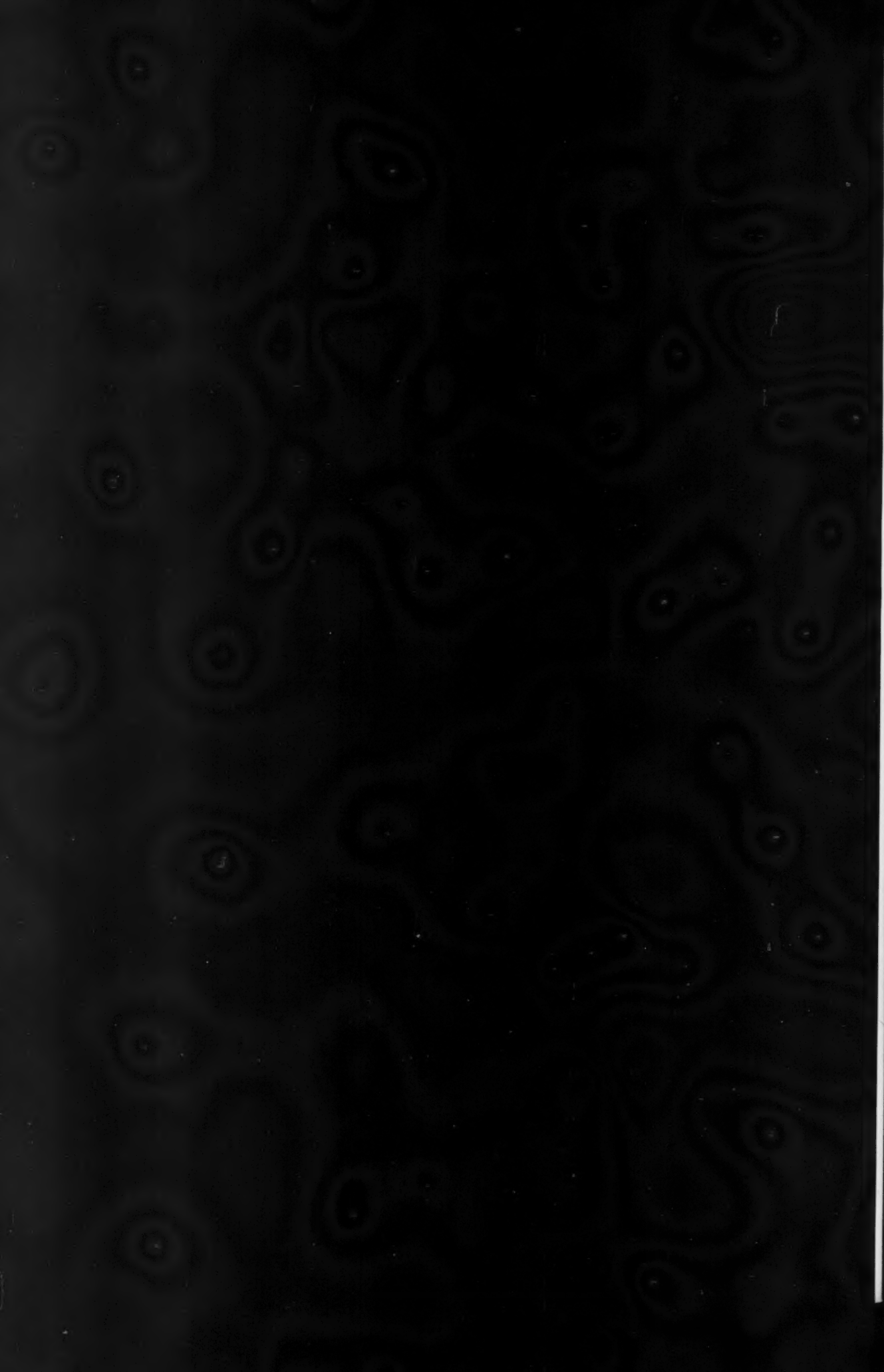
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CALIFORNIA AND WESTERN MEDICINE

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No. 2

THE INCIDENCE AND TREATMENT OF THE COMPLICATIONS OF CHRONIC GASTRIC ULCER*

By DONALD C. BALFOUR, M. D.
Rochester, Minnesota

CHRONIC gastric ulcer is one of the most important of the surgical lesions of the stomach and duodenum, but is relatively rare, only 1.7 per cent of operations for intraabdominal disease being for gastric ulcer. It was formerly taught that gastric ulcer occurred as frequently as duodenal ulcer, but the surgical treatment of peptic ulcer has shown that the ratio of gastric ulcer to duodenal ulcer has become steadily less until now the ratio is 1:10. The incidence of gastric ulcer in males and females is approximately the same as that of duodenal ulcer, about 4:1. The average age of patients operated on for gastric ulcer is 47 years, for duodenal ulcer 43, and the average age at the onset of symptoms is 39 years for gastric ulcer and 32 years for duodenal ulcer.

The basic principle of the successful treatment of chronic gastric ulcer is that it is a surgical disease. It is true that cure without operation is possible in the early stages of the disease. Robertson and Hargis, in 2000 postmortem examinations, found 141 gastric ulcers of all types of which 20 per cent were healed. Ulcers that penetrate to the serosa and become attached to adjacent structures heal with great difficulty because such attachments interfere with the contraction which is necessary to bring about the approximation of the edges. Caylor, in a study of gastric ulcers excised at operation, has shown that their healing parallels the healing in experimentally produced ulcers in animals as demonstrated by Mann; that is, the chief factor is the formation in the base of the ulcer of a plug of granulation tissue with an epithelial layer of single flat cells growing from the margin of the lesion to cover the granulation tissue. Morton¹ has shown by a series of experiments that the rapidity and the completeness of healing vary with the site of the lesion. For instance, if the mucosa is injured experimentally healing is most rapid along the greater curvature and most retarded on, or near, the lesser curvature, thus demonstrating one reason for the frequency with which chronic ulcers are found in the region of the lesser curvature of the stomach. Although it is true that ulcers in the early stage may, and do, heal, it is also true that they may pro-

gress beyond the point where healing is possible under our present methods of nonsurgical treatment. The disease has then become chronic in most cases, and can be cured permanently only by surgical measures. The majority of gastric ulcers seen by the surgeon are chronic; known methods of nonsurgical treatment have failed, and as a rule complications are present.

The usual complications of gastric ulcer, encountered at operation, are hemorrhage, obstruction, perforation, malignant degeneration, and hour-glass deformity. In the aggregate these complications occur in 67.3 per cent of the cases. All are agreed that surgical procedures are the only effective means of dealing with these complications; only under the most exceptional circumstances are they contraindicated.

HEMORRHAGE

The indications for operation in cases of gastric ulcer complicated by hemorrhage are positive. The complication occurs in about 25 per cent of the cases. Hematemesis alone occurs in 28 per cent, and melena in only 10 per cent; both melena and hematemesis were reported in 62 per cent. Symptoms had existed for an average period of eight years before the first hemorrhage, but in some cases a hemorrhage was the first indication of the lesion. The possibility of malignant change is greater in ulcers that have been associated with bleeding than in those that have not, and the danger of serious or fatal consequences directly or indirectly due to hemorrhage in benign lesions is greater than the risk of operation, so that quite apart from the other symptoms of the ulcer operation is indicated. The optimal time for operation is after the patient has recovered from the immediate effects of the hemorrhage. Experience with these cases has led me to adhere to the practice of avoiding operation during the time of an initial hemorrhage. Patients are kept under close observation and, after small transfusions have replaced the blood lost and the hemoglobin percentage is raised to 40 or more, operation is performed. In some cases in which slow oozing from the ulcer may persist (which suggests malignant change) it is not advisable to delay; the operation should be performed immediately after the first transfusion. If necessary transfusion should also follow the operation. There are special surgical indications in such cases. First, the ulcer should be removed or destroyed by the cautery whenever feasible. Secondly, the entire stomach, duodenum, spleen, liver, gall bladder, and appendix should be carefully examined to make certain that no other lesion or complication exists which might be a factor in the bleeding and thus interfere with an otherwise good result. It is not always possible, of course, to remove the ulcer, and an indirect operation only

* Read before the California Medical Association at the Fifty-Sixth Annual Session, April 25-28, 1927.

1. Morton, C. B.: Observations on peptic ulcer. I. A method of producing chronic gastric ulcer: A consideration of etiology. II. A roentgenologic study of experimental chronic ulcer. III. Healing of experimental peptic ulcer after gastroenterostomy. *Ann. Surg.*, 1927, **lxxxv**, 207-238.

may be all that can be accomplished. Such operation, namely gastroenterostomy or jejunostomy, affords at least partial protection against further hemorrhage and is sufficient in about 50 per cent of the cases to permit the ulcer to heal, and relieve the patient from symptoms.

OBSTRUCTION

In about 15 per cent of gastric ulcers coming to operation obstruction of some degree can be demonstrated. The degree may vary from temporary interference to motility, which can only be detected by fluoroscopic examination and of which the patient is not cognizant, to almost complete obstruction from lesions at or near the outlet of the stomach. The situation of the ulcer does not necessarily, however, determine the amount of obstruction present, for there may be marked retention in cases in which the pylorus is not involved and the ulcer situated at some distance from it. The most important clinical fact in connection with obstruction is that occasionally toxemia, which can be accurately recognized, measured, and adequately controlled, is sometimes associated. Such toxemia is manifested in chemical changes in the blood, that is, in a decrease in the chlorides, an increase in the urea, and an increase in the carbon dioxide combining power of the plasma. It is most important to correct such changes before operation is carried out. This can be done by the administration of an adequate amount of physiologic sodium chloride solution and 10 per cent of glucose solution. As a part of this treatment of the toxemia of obstruction systematic lavage of the stomach enables the organ to regain its tone partly and, therefore, to contract so that if an extensive operation is indicated it can be much more safely performed because of the better condition of the tissues. However, no definite rule can be followed as to the type of operation in such cases since certain patients are in such poor condition and the obstruction is so marked that relief of the obstruction should be the primary purpose and removal of the lesion reserved until the patient's condition is sufficiently improved to permit it.

PERFORATION

In cases of acute perforation of gastric ulcer the immediate necessity is to save the patient's life. Any method of closing the perforation which will serve the purpose is satisfactory, by suture, a plug of omentum, or resection of the ulcer. The question of combining gastroenterostomy with the closure rests chiefly on the condition of the patient and the time which has elapsed since the perforation occurred. During the first six hours almost any operation can be carried out as safely as though there were no perforation. After this period, however, closure of the perforation alone is the wisest procedure.

In cases of subacute perforation, that is, if the perforation is protected but it is obvious that recent exacerbation of the infection has occurred, and particularly if the process is extensive, it is usually inadvisable to perform a radical operation. If the character and severity of the pain indicate a subacute perforation the patient should be kept in bed and the stomach at as complete rest as possible to

permit the infection to subside. Extraordinary changes may take place in the inflammatory tissues under such treatment, and a radical operation can be carried out with much greater safety. In cases of chronic perforating ulcer one should follow the principle, whenever possible, of removing the ulcer. In many such cases the lesion becomes attached to organs and tissues outside of the stomach, the pancreas being the most commonly involved and the liver next. The lesions are usually of considerable size, and a superficial examination of them and their attachments will frequently lead the surgeon to believe that it is unwise to attempt removal. In many instances, however, it will be found on more careful investigation that the lesion can be separated; this permits much greater mobilization of the stomach and partial gastrectomy, whereas without detaching the ulcer, it seems out of the question. It should be noted that if the perforating ulcer is not removed but is left attached, the possibility of permanent relief is slight, and also that these attached lesions are more often malignant than the unattached. In some cases in which the lesion is situated so high that partial gastrectomy is inadvisable the ulcer can first be separated from its attachments, the thickened ring of the opening in the stomach can be excised, the opening closed, and gastroenterostomy performed.

MALIGNANT DEGENERATION

The relationship between ulcer and cancer of the stomach has never been questioned. The two unsettled questions are: (1) why lesions that frequently exhibit all the gross characteristics of ulcer (clinical, roentgenologic, surgical, and pathologic) have microscopic evidences of cancer, and (2) whether ulcers that are clearly malignant were malignant primarily or secondarily. These questions will probably not be answered until the life history of cancer is understood. Much of the confusion regarding this subject is due to the fact that investigations made with the idea of determining the frequency with which ulcers become cancers are made on specimens from advanced cancer of the stomach in which it is usually impossible to determine the nature of the original lesion. If tissues from gastric ulcers only were investigated for carcinomatous change, greater progress would undoubtedly be made toward the solution of the problem. Fortunately the very uncertainty of the true relationship between ulcer and cancer makes more certain the indications for treatment. If it can be shown that malignant ulcers are malignant from their inception, and that they cannot be differentiated, removal of the lesion is clearly indicated from the standpoint of safety alone. The experienced clinician may be able to say with considerable confidence that a given ulcer of the stomach is malignant, but never with great confidence that it is benign. The possibility of a gastric lesion being malignant, regardless of whether it is a malignant ulcer or an ulcerating carcinoma, is more than adequate reason for radical removal.

HOURLY GLASS CONTRACTION

Hour-glass contraction is encountered in about 8 per cent of cases of gastric ulcer. It is more

common in females, the proportion being about 3:1.

The ulcer associated with hour-glass stomach has certain characteristic features. Apparently its healing power is high, and quite often evidence is found of healed ulcers in other parts of the stomach. It is also interesting that certain surgeons of wide experience believe that ulcers that cause marked hour-glass contraction never become malignant, and the condition is dealt with on the basis that an indirect operation such as gastrogastrostomy alone is adequate, since it relieves the patient from the mechanical effects of the hour-glass contraction. I have never been satisfied, however, to follow this practice as a routine; I prefer to remove the ulcer and the constricted portion of the stomach if it can be done with reasonable safety. As a result some type of resection, excision of the segment of the stomach containing the contraction, or partial gastrectomy including also the lower segment, is usually performed.

OPERATIVE PROCEDURES

Operations that accomplish the first principle in the surgical treatment of gastric ulcer, namely the removal of the lesion, are as follows:

1. Local excision either by the so-called wedge-shaped excision or by cautery puncture or cautery excision. With such removal the stomach should be drained; this is accomplished either by gastroenterostomy or pyloroplasty. Local excision alone, regardless of how satisfactory it may be, is inadequate, but combined with gastroenterostomy it is, for small ulcers, the most satisfactory operation performed. It is the least destructive, it completely removes the ulcer, it is followed by good mechanical function, and the protection against subsequent ulceration is 96 or 97 per cent.

2. For large ulcers partial gastrectomy is preferable, since local excision would be too extensive. If the lesion is near the pyloric end of the stomach the Billroth I and its modifications are satisfactory procedures. The well-known modifications of the Billroth I operation are those devised by Schoemaker, C. H. Mayo, Von Haberer, Finney, Horsley, and others.

3. I have already mentioned segmental resection for lesions in the body of the stomach. It is a satisfactory procedure, both from the standpoint of immediate and late results, although the function of the stomach is not quite as good as that following other types of resection.

4. The Billroth II operation is satisfactory in principle, but since the introduction of the method, ascribed to Polya, of uniting the end of the stomach to the side of the jejunum, the time saved and the fact that as good function follows the operation give preference to the latter procedure. The end-to-side anastomosis between stomach and jejunum may be made posterior to the colon and transmesocolic if only moderate procedures are carried out; but in extensive gastrectomy it is safer to make the anastomosis anterior to the colon.

5. As has been noted, it is not always possible to carry out a radical operation for ulcer. In about 25 per cent of the operations for gastric ulcers in the clinic it was found inadvisable to remove the ulcer. In 50 per cent of such cases either posterior

or anterior gastroenterostomy can be expected to relieve symptoms. The gastroenteric stoma should be made, if possible, at, or above, the level of the lesion. If the lesion is in the cardiac end of the stomach, the best chance for cure is by placing the stomach completely at rest. This is accomplished by means of feeding through the jejunostomy tube until fluoroscopic examination shows that the lesion is healed.

Mayo Clinic.

THE GENERAL PRACTITIONER*

By JAMES B. HERRICK, M. D.

Chicago, Illinois

THE family doctor is gradually disappearing. By many physicians, the laity, and by students of social problems, this prospective loss is viewed with great regret and even perturbation. They feel that the family doctor is an essential feature of every village and town, as much as is the school-master or the corner grocer. To lose him is seriously to disturb the happiness and smooth working of the community. Who will be found to take his place?

What a unique place it is! An old adage says that the minister sees people at their best, the lawyer sees them at their worst, the physician sees them as they really are. The village doctor knows the secrets of the home, the joys and sorrows of every room, the skeleton in every closet. He advises not only as to health but also in case of family trouble. Rules of conduct are prescribed and corrective advice is administered, at times in form no more palatable than are his medicinal draughts and boluses.

THE FAMILY PHYSICIAN

And such confidence and affection as is the doctor's lot! "Your advice is good," writes a patient, "I intend to stick to Dr. S. As a family we thoroughly appreciate him. When the grim reaper calls for me I expect Dr. S. to fight him as long as possible and then make the passage easy." "Doctor, don't send your assistant," said the old Irish lady on West Superior Street. "Come yourself. The young man may be all right, but you took care of my poor husband Dinnis when he got hurt and died. You threat little Mike when we lost him with the diptheria; you doctored my sister for her kidney till she died; you were with me ould mither in her last days with pneumonia and, Dochtur dear, I have that confidence in you that I don't want no one else." The family doctor and I were standing in the hall ready to leave after our consultation over the aged mother. The husband, the three or four children and one or two other relatives were there, sorrowful and sober-faced, for the outlook of the illness was gloomy. "It looks bad, but we have come through some prettey severe illnesses in this house and we'll do the best we can," cheerfully said the family doctor. Suddenly the youngest daughter, a charming matron of thirty, threw her arms about the doctor's neck, kissed him on the cheek and said, "Oh, you dear good man, how we all love you." It was a spontaneous expression of affection for the

* Read before the California Medical Association in General Session, Los Angeles, April 26, 1927.

man who for many years had faithfully served them. As we left the house the doctor, with eyes still moist, said to me half apologetically and as in explanation, "You know I brought her into the world thirty years ago, and also her baby last year." "I intend to stick to the doctor." "Don't send your assistant, come yourself." "How we all love you." Can any other business or profession match these tributes?

But I need not describe the family doctor whose loss is deplored. Ian Maclaren and others have drawn the portrait of this faithful medical friend, and most of us have known him in the flesh. He has won respect and affection by reason of his learning, his wisdom, his skill, his resourcefulness, his courage, his self-sacrifice.

But there is another side to this picture. The family doctor has been worshiped as a fetish. To criticize him is viewed by many as little short of sacrilege, but I venture, perhaps rashly, to call attention to certain shortcomings that attach to some of this group—not to all by any means.

Frequently the family doctor has been too poorly informed to be a safe guide. He has many times been ignorant of up-to-date scientific medicine. Sometimes he has known his lack, and has been reasonably safe; often he has not and dire results have followed. He has neglected serious disease in its incipient and curable stage because of superficial examination or incorrect reading of symptoms and signs. He has dogmatically relied on personal experience even though it might be opposed by facts well recognized by those better informed. He has attributed to the nature of the disease certain complications due to mistakes in technique. "I don't believe in operation for appendicitis," the country practitioner said to me, "for out of four patients on whom I lately operated I lost three, and two of these were clean cases to begin with." The force of my remark that I agreed that he had better treat his patients as he had before, by nonoperative methods, was entirely lost on him. But the tragedy of the two clean cases! And the gullibility as to drugs, the grasping at anything new in the therapeutic line, the inability to distinguish between the stamp of scientific accuracy and the stamp of a patent drug firm. The ignorance concerning the natural course of disease. "I had six patients with pneumonia get well on boric acid," said the therapeutic optimist. "But," his professional brother, a gradgrind in medicine, replied, "I had seven get well without it." The skeptic seemed to have the better of the argument, but he made no impression on the mind of the other. And are these drugs harmless? Not always. I fear that here and there a patient has had his exitus made rapid or his recovery slow and stormy by the ignorant and reckless use of unnecessary and harmful drugs. And to the list of the needed operations omitted that must be charged to the score of the poorly qualified family doctor must be added those of operations badly performed by the doctor himself or by some incompetent surgeon of his choice, operations many times unnecessary or even harmful. I am not referring in this criticism to what is done by the small number of men who are dishonest or who knowingly treat

or operate for commercial reasons only. These are frauds and are to be classed with shyster lawyers; they are outside the pale of discussion. I am speaking of the unfortunate results of ignorance, poor judgment, lack of early hospital training in the observation of disease and in assisting at operations performed by experts. That these errors are made by men who are honest, faithful and sympathetic, does not lessen the lamentable consequences.

FEWER FAMILY DOCTORS, AND WHY

Why is the family doctor vanishing?

The reasons may be grouped under three heads:

1. The impossibility for one man to know and do the many things required for the proper medical care of a family.

2. The lure of the specialties.

3. The tendency on the part of the laity to demand and secure first hand, i. e., over the head of the family doctor the services of the expert, i. e., what in their view are the best services.

1. It is impossible for one man to grasp and utilize all of medical knowledge. No matter how carefully the textbooks and his instructors may have boiled down and simplified this knowledge the recent graduate leaves even the best medical school possessed of only a small fraction of what is known in the medical and closely allied sciences. No matter how studiously after graduation he tries to keep up with the new advances he is soon conscious of being left behind. He may fairly well keep up in one or two branches, but in all the task is too great.

Fifty years ago this was not so. One man of receptive mind and industrious habit could master fairly well the essentials that enabled him to practice the art of medicine as it was then understood. It is different now. There is bacteriology, with the new viewpoint of infectious diseases, immunology, serology, preventive medicine, and the new surgery with its many life-saving and health-giving operations. The modern family doctor must at least know the benefits, dangers and limitations of these operations so as to be able to give sound advice concerning their need, and he must be a judge of the competence of the surgeon who is called in.

He must be an aseptic obstetrician. He must be an expert on diet. He should know that special skill is required properly to direct the artificial feeding of an infant, an undernourished child, an overnourished adult; a patient with an ulcer of the duodenum or a severe diabetes. The technical requirements in any one of these cases may be as great as for a major surgical operation. He must know something of endocrinology and much of chemistry. He must understand instruments of precision. The general practitioner cannot master them all, but he must know how to assess their findings. He is supposed to keep informed regarding new drugs, new diagnostic signs, new advances in physiology and pathology. And much more.

If he tries to do all these things he spreads himself out so thin as to be a very ordinary or superficial diagnostician, a poor or dangerous surgeon, an overconfident or hesitating therapist; he is in a word a mediocre or inferior man. Such a one is liable to drift and wind up as a pseudoquack, a pseudoscientific general practitioner, relying on his

much vaunted "experience" which Hippocrates and other wise men since his time have declared to be fallacious. The better informed, more honest man realizes his limitations. He is obliged repeatedly to seek aid of specialists and he very likely decides to become one himself. He gives up general practice and, if he has the right preliminary training and is willing to devote enough time to properly directed graduate studies, may become a first-class man in some one subject. But the practitioner, the family doctor, has disappeared.

This is the important, fundamental reason why the old style family doctor is going—the physical and mental impossibility of grasping any considerable proportion of the enormous mass of present-day medical facts, to say nothing of theories.

2. The financial return to the general practitioner is seldom commensurate with the time and expense involved in his preparation for practice. After a minimum of seven years after leaving high school so that at the age, perhaps, of 26, if father has worked his boy's way thus far, our licensed doctor is permitted to enter the ranks and compete for a livelihood. And what is the manner of his pay? Almost that of the taxicab driver, so much for the first mile and so much for each subsequent mile. Scientific knowledge, technical skill, professional opinion, years of close application to studies, all paid for on a chauffeur's basis. Need we wonder that the A. B. from Harvard, Michigan, California, hesitates to become a family doctor? By tradition, by urge of hunger, by need of clothing and shelter, he is forced to respond to calls that come to him with the tone of orders to employees. He loses his self-respect and feeling of independence. He is not practicing as a professional man, rather as a tradesman or a hired servant.

The specialist toils less arduously for larger fees, is more independent, has a higher standing in the community as one who possesses knowledge and skill that are not common to all. Our general practitioner decides to break away from the daily grind of family practice; he gradually or suddenly, as the case may be, becomes a specialist—a surgeon, oculist, neurologist, pediatrician, x-ray laboratory man. The ranks of the general practitioners are being thinned daily by this desertion—or shall we call it by this promotion or simply transfer.

3. A change has come over the people in respect to the family doctor. They may admire him and trust him as a man, but they have become aware of his limitations. Health columns in our daily papers, popular medical articles in magazines, freer discussion of matters of anatomy, physiology, hygiene in our schools and colleges—even sex matters—have made people more intelligent along medical lines. They are more prone than ever to make their own diagnoses and to decide for themselves what is best to be done. They often, therefore, go over the head of the family doctor, directly to the specialist. Johnnie's tonsils and adenoids are suspected of harboring harmful germs and the throat man is consulted; the pain in the abdomen probably means appendicitis and the surgeon is seen; the distress from food undoubtedly means ulcer of the stomach,

Mrs. Smith got well of her ulcer under Dr. A., so off they go to Dr. A. for ulcer, etc. They may be right or wrong. They may find an honest, experienced specialist who views the body as a whole or one whose field of vision is narrow and who ascribes all human ills to teeth, tonsils, appendix, endocrine glands, or auto-intoxication. But the point is that the family doctor is overlooked. He who should be their counselor is ignored. Moreover, the ease with which the specialist is reached makes it no hardship today to see the expert. The telegraph, telephone, steam and electric railways, good roads, automobiles, comfortable ambulances, make it a simple matter to take the patient to the specialist even though many miles away or to get him to come to the home if the patient is too ill to be moved. The result of this modern tendency of the laity to assume the direction of their own medical affairs is that the doctor is looked upon as a convenience for slight ailments or emergencies, as one suited to make painless the last days of some hopeless illness—he sews up the small scalp wound, pulls the milk teeth, prescribes a laxative pill, gives opiates to the sufferer from cancer, or is called out in the night to administer a sedative to quiet some nervous individual who cannot sleep and who next day motors to the city to see the psychoanalyst, or the chiropractor, who, he informs you, "is especially good in these cases, you know." The family doctor is thus pushed still further into the background, is thus being gradually eliminated.

For the reasons given, the family doctor of the old type will soon be a memory only. What will take his place? A group of specialists, organized charity in the hospital and dispensary in the shape of "pay clinics," i. e., small fee clinics or the state paternally furnishing free or cheap medical service to the poor and those of modest means, this latter, a plan that, because of many objectionable features, has few friends among physicians. It may be a combination of these, at least for many years. What will ultimately evolve is largely a matter of opinion. Resolutions passed by medical societies may influence but will not control the change, nor will legislation. Social and economic considerations, which are forces difficult to control, will largely determine the result. But I believe there will come out of all this a new type of general practitioner, that he is even now appearing and that he will combine many of the good qualities of the old type family doctor with added desirable features made necessary by the changing times.

GROUP PRACTICE

Just a word about group practice. This is one of the partial substitutes for the old style doctor, and in some respects not a bad substitute. There are dangers connected with group practice. Commercialism often lurks in these combinations; the diagnosis is too often an assembled diagnosis with facts heterogeneously jumbled together and not integrated and interpreted by some master mind whose decision is the fruit of ripe clinical experience, and who to much knowledge adds judicial wisdom. Division of medical labor can be carried to such an extreme as to make mere repetitional monotony of the simple task irksome and deadening to initia-

tive and the spirit of research which is the activating force in all true medical work. There is apt to be a lack of the important and vital personal touch. The patient is likely to be regarded as a case rather than a human being who is ill. But even though the system has faults and grave dangers, it has certain advantages and it will probably stay, for a time at least. What will ultimately be evolved from it one cannot predict.

THE GENERAL PRACTITIONER OF TOMORROW

But the place of the family doctor will not be taken by the group alone. As I have said, a new type of general practitioner is developing. Just what he will be when fully developed one cannot now say. But we may properly consider.

We may safely predict that he will be human with strength and frailty of character mixed in different proportions much as now. He will not differ much from the average of the race about him. He will work as now, for gain, reputation, opportunity, power. We trust he will not be too commercial. There is quite prevalent today an unfortunate trend of thought which too emphatically views medicine as a trade. The laborer is worthy of his hire. But is it not possible to retain some of the old tradition of medicine as a profession and not a trade?

What kind of practitioner he will be will depend in large measure on how he is trained for his work. This is not the time nor place to discuss in detail the important, complicated and very live question of the education of the physician. The ultimate solution will be greatly favored by the studies now being carried on by some of our best educational experts. We may, however, with propriety refer to a few features of the problem.

REVISION OF MEDICAL CURRICULUM

Our medical curriculum needs revision. May not many things be dropped or modified? Many facts in anatomy available through the index, the descriptive text, the illustration, and the museum specimen should not occupy valuable space in a man's memory, space more properly occupied by knowledge more frequently needed and of immediate use. May not method and technique in preclinical as well as in clinical subjects be preferably taught in the lecture room, library, laboratory, clinic, and ward by means of topics that are live and practical rather than by topics that are purely theoretical and concerned with rare occurrences, or with ideas still in a hazy, experimental stage? Correct habits of thinking and general principles can be taught by the study of drugs like digitalis or opium as well as by some preparation that is new, and sure to be only rarely used in practice.

There is a trend in practice and in teaching away from pathologic anatomy which is to be deplored. I am referring particularly to gross pathologic anatomy. For many years to come, perhaps always, knowledge of altered physical conditions in disease with attendant altered function must remain the basis of diagnosis. Pathologic anatomy is the mistress of us all, said Neusser. The laboratories have not yet entirely displaced the interpretation of symp-

toms and signs on the basis of pathologic anatomy. Some laboratory workers would be greatly helped if they knew more of pathology.

LABORATORY DIAGNOSIS

There is a tendency—we try to combat it, but it remains nevertheless—to overestimate the value of the instrumental and the laboratory side of clinical medicine. There is an air of finality about these tests that attracts us. Figures don't lie is the old adage, and looking on instrumental and laboratory tests as mathematically precise, we feel that they don't lie, though at times they do. It is such an easy, lazy way to let the instrument do it. The Wassermann test will decide as to syphilis. The roentgen ray will tell us whether there is an aneurysm or pulmonary tuberculosis. We can test the metabolic rate or get the blood chemistry, and disregard the time-honored symptoms of exophthalmic goiter or nephritis. Why must we take hours trying to decide whether there is ulcer, carcinoma, or gall-stone? Why not make the exploratory operation that will decide at once?

We all recognize that such teaching or practice is wrong. It trains the student not to examine or to think but to entrust his thinking to a test tube, a mechanical device or the knife of the surgeon. Worst of all, too often the student or practitioner does not think even when the results of these tests come in to him. He lets someone else do the interpreting. He accepts a long distance finding at its face value. He forgets the possibility of error on the part of the method or of the technician. Even the surgeon with his hand in the abdomen or with his gaze on the lesion all too frequently errs.

Many of these instrumental and laboratory diagnostic aids are yet in their infancy. There are so many variables involved that their results cannot be compared in accuracy to those of an adding machine. Their proper place up to the present is as aids that are confirmatory and corrective. They are not the sole arbiters in the case. They are to be fitted into the evidence along with history, symptoms and signs. They are sometimes of negative or even negligible value; at other times, of supreme importance. These facts should be thoroughly impressed on our clinicians even in their years of undergraduate study.

To guard against this tendency implies training in observation—sagacious observation Mr. Flexner happily terms it—in reading and evaluating the work of others, in recognizing one's own and others' limitations and in knowing the meaning and limitations of the methods employed. Is not the best teaching that which emphasizes the balanced combination of the two methods, the laboratory and instrumental, with the careful study of the history and the physical condition of the patient? Which means, of course, close contact with patients in the ward and in the dispensary.

THE RESEARCH SPIRIT

I hope our future practitioner will be under the influence of the spirit of research. Unless he comes in contact with the research man, he will be too likely to be a hack worker, unfamiliar with the methods of investigation. He will be unable to

evaluate that which is new, as it is announced to the medical world. He will take his opinions largely from others. Untrained in criticism of methods of work or habits of thought, he will be too apt to believe implicitly what is printed merely because it is printed or because it emanates from some famous clinician, well-advertised clinic, or much-talked-of laboratory. Our clinician must get some of the fire and enthusiasm of these research men in order to live and not merely exist; in order to produce and not merely to do the daily grind. Here and there the student or graduate will thrill as the consonant chord in himself vibrates in the atmosphere of research, and a real investigator will have been discovered. Investigators are rare; like Cicero's poets, are born rather than made, but they sometimes go undiscovered.

THE PRACTICING PHYSICIAN

But clinical medicine—using medicine in its broader sense as including medicine, surgery, obstetrics, and the specialties—should also be presented to our students by the one who is himself a clinician, a practicing doctor. Such a one has rubbed elbows with the world. He knows the problems of the general practitioner; he has seen patient's in their homes and realizes the human side of illness; he understands how illness begins and not alone how it ends as is too often true of the hospital doctor. Such a man may be intellectually as scientific as his laboratory or all-time colleague. To immure oneself in a hospital or laboratory does not of necessity make a man a scientist. Nor does a man who engages in practice by so doing necessarily lose his scientific habit of thought.

We wish then that our students should have instruction from those who have had clinical experience. Experience rightly utilized is a mighty force for good. The younger doctor stands amazed at times to see the rapidity and certainty with which the older physician makes his diagnosis—a look, a question or two, a naked ear clapped to the chest, a glance at the temperature or blood chart, and the conclusion is reached. It seems almost intuitive, but is, of course, the result of many successes and mistakes, of much reading and comparing of notes and of meditation. It is the practice of medicine where the art is based on a deep knowledge of fundamentals and controlled by a logically working brain. Yet experience may be a power for evil, for there is no greater menace than an opinionated clinician working empirically yet honestly with his misinterpreted experience as his guide.

The practitioner of the future should come into close contact with this right type of clinician not alone when the teacher is in the making as when he is an assistant or an instructor, but when he is made, when he is a ripened clinical teacher. Such a teacher's experience, methods, technique, encouragements, warnings, statistics, his impressions even, his way of handling patients as well as the disease, and his personality should be available to the student who is to go into practice. And, parenthetically, one argument in favor of retaining in the curriculum the large clinic or lecture is that the entire student body, not merely a favored few, may

have free opportunity to see and hear the great clinical teacher and to come under the sway of his personality.

SPECIALISM IN MEDICINE

A word concerning specialism and its relation to undergraduate instruction. Whether we like it or not, specialism is here and is bound to stay, if not permanently, at least for a long season. As we have seen, the practitioner cannot acquire that *all knowledge* that was more nearly possible fifty or seventy-five years ago. He may be a practitioner, but not a general, an *all* practitioner. So specialists have evolved.

There is danger in specialism, it is freely admitted. Specialism is still in process of evolution. Many specialists are such in name only, a name often self-assumed. Many are narrow. Many, poorly prepared, lack broad experience and proper graduate study. They are often more concerned with technique than with diagnosis or indication for treatment. Some are offensively commercial. But in the future one type of clinician will be the well-qualified specialist. He will not be confined by any means to our large cities. He will be readily available; a man as considerate of his fellow practitioner's reputation and comfort as he is of the patient's pocketbook. On him must lean heavily the practitioner, incompetent to treat certain diseases, and trained to admit his incompetence. The operation on gall bladder or prostate gland, the dietetic management of the poorly nourished infant, the expert handling of the neurasthenic, the proper use in certain cases of roentgen ray, radium and perilous drugs, the skilled manipulation of instruments of precision or the technique of applied bacteriology and chemistry—this may be outside the practitioner's field. He must call in the specialist or take the patient to him, or, as is so easily done, the patient goes to the specialist over the head of the general practitioner, particularly when the illness seems acutely dangerous or chronically baffling.

The relation between specialist and general practitioner must be more cordial and cooperative than now; they must not be rivals but colleagues, mutually helpful. There may well be some open apportionment of the fee that will do away with the present unfair practice by which the general practitioner is inadequately paid unless there is some secret splitting of fees which is essentially dishonest and not to be countenanced. The result of this partnership will inure to the benefit of the patient, who, in spite of some of our medicine-as-a-trade advocates, is the prime consideration. The moment we fail to keep the ideal of benefit to the patient before us, practice will degenerate and will be in essence dishonest.

I should like to stress here an idea that I have advocated before; one that has not met with a hearty endorsement but which seems to me nevertheless worthy of serious consideration. It will bring us back once more to the undergraduate medical curriculum.

PREPARATION FOR SPECIALISM

The best preparation for specialism is, in general, an experience as a general practitioner. My conten-

tion is that one of the best preparations for a general practitioner is some study and some experience as a specialist. And I would permit this specialism to start in the medical school. Some criticism of this plan has arisen, I think, because of the use of the word "specialist" in connection with undergraduate work. The worshiper at the shrine of the general practitioner will have the medical school a training place for nothing but general practitioners. Anything smacking of specialism is to this worshiper anathema. His "bete noire" is the undergraduate who is specializing. In fact, so impressed is he with the general-practitioner function of the medical school that in order to turn out this product in greater numbers and at less expense he would shorten the time and bring our teaching down to a uniform level to suit the average student and teach only what by common agreement would be regarded as the fundamentals.

His plan is, I believe, pedagogically unsound. The desired shortening of time should be in the lower schools. A college that consciously trains a man to be mediocre—for in spite of the contention to the contrary, that is what this plan implies; to know a little, only the essentials in the many subjects—is training along wrong lines. It is an injustice to the student. Somewhere in his course each student should be given the opportunity to learn the meaning of the word *thorough*. He should pursue the study of some subject or a few subjects far beyond the elementary phase; he should do intensive, concentrated work along that line, undeterred by the cry of those to whom this seems like specializing. Our best students often do this now, getting into the laboratory or the clinic of some professor for special or advanced work. Our literary schools recognize this principle. They allow much freedom in their choice of studies, but an undergraduate must specialize—that is, major—in at least one subject and not spread himself out thin over a wide range of topics. Unless this majoring—let us get rid of the offensive term specializing—is done in the study of medicine, the doctor who is turned out is ordinary; power that may be lying dormant within him and of which he is unconscious is never developed; he is a man with no particular aim, diffuse and forceless. His later work lacks live interest. He becomes a mere money-getter. He loses self-respect. Unless he feels the incentive that comes from a conscious drive toward superiority in some one or a few lines he stagnates and is soon a negligible quantity.

But more than this, a doctor with only this general diffuse training is dangerous, because he does not know his own limitations. With more thorough knowledge he would shrink from that cocksure frame of mind that leads him to undertake the major operation or to handle the therapeutic medicinal agent that he so poorly understands. Knowledge is power and should oftener be power for good. Fools still rush in where angels fear to tread. The safest man is he who comprehends what is meant by detailed knowledge and who realizes the superior possibilities of expert treatment. A high grade undergraduate education in the essentials, with stress laid on one or two subjects that are studied

intensively, even though five years and much money are required, will turn out a product more contented, more progressive, much safer and in every way more efficient than the graduate of the standardized low-level average course of study. "Non multa sed multum" was Waldeyer's motto.

THE FUTURE OF RURAL PRACTICE

Will these low-standard men go to the country to supply the lack of physicians? And will the people employ them? I fear not. Some will go to the country; many will flock to the cities. They did it in Billroth's time, as he recorded fifty years ago. They are doing it today. If this type of doctor stays in the rural districts he will be accorded the standing and receive the patronage of an average man and no more. Let the well-trained man from the high-grade medical school go into this community. Teach him to estimate his abilities at a fair price. Teach him to be studious, to attend society meetings, to write, to observe, to record and to think at the bedside, in the laboratory and in the roentgen ray room. He will be competent to diagnose 90 per cent of illness and to treat the great majority of his patients. Let him perfect himself in some particular phase of disease thus showing his superior mentality. In this way he will be self-respecting and respected by others, both by lay people and colleagues, he will become the new type family doctor, the family health adviser, the safe guide, philosopher and friend. What the rural districts need today is not so much more doctors as better doctors.

More than this the people of the rural districts are entitled to better doctors and are going to get them. One reason why the country doctor is losing out is because he is not good enough for the country patient. The farmer's conditions of living are very different from what they were fifty years ago. He has a more comfortable home, better roads, better news service by post, telegraph and telephone, better community markets, school houses, better means of transportation. There is better medical service in the clinic and in the well-run hospital in the neighboring town. He will demand this kind of service of the general practitioner and the practitioner will meet this demand or disappear. The dearth of physicians in the rural districts does not mean as great dearth of service as one might think. There is not today as great need for so many rural doctors. In the same time one doctor covers a much wider territory than before. More of his work is being concentrated in hospitals. A colleague commented to the general practitioner on the fact that in a certain village there was now no local doctor. No doctor nearer than eight miles. The practitioner replied that he, eight miles to the east, and another ten to the south, gave the village prompter and, he believed, better service than it ever had before.

IN CONCLUSION

In conclusion, may I quote what I have written elsewhere on a somewhat similar topic:

I believe, therefore, that the practitioner of the future is to be a professional man and not a tradesman. He will see in his patients human beings whose distress appeals to his heart and not alone to

his commercial instincts, his scientific or technical skill and pride. He will be well educated as to knowledge and methods. He will have the wisdom to use this knowledge in practice with a due sense of proportion of the value in the recognition of disease, of history, observation, and instrumental and laboratory examinations. He will not pretend to know all or to do all as rightly could our practitioners of fifty or seventy-five years ago. He himself will do much less than they did. He will recognize his own limitations and appeal oftener to the expert. Between him and the expert there will be the cordial relation of colleagues and not the antagonism of rivals for trade-gain or reputation. He will be no second-rate product of our medical schools, but one of first rank. He will be practical, but inspired to ever improving work by the spirit of investigation. While clinging fast to that which is good of the old he will be no slave to tradition, but will be able to throw aside the disproved old for the proved new. He will be, and will be regarded as being, a scientific man. He will become the family confidant as of yore, the family adviser, well recompensed for his services. He will be self-respecting and respected by others.

122 South Michigan Avenue.

OBSERVATIONS ON BLOOD SEDIMENTATION IN TUBERCULOUS PATIENTS*

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Colfax

IN an article on "Blood Sedimentation Test as an Aid in Diagnosis in Surgical Infections," Friedlander¹ supplies the following definition: "The sedimentation time of the human red blood corpuscles is a non-specific biological reaction indicating the suspension stability of the erythrocytes in blood which has been rendered non-coagulable. The sedimentation test consists in observing the varying speed with which the erythrocytes, in a specially constructed tube, are separated from the plasma"; and, he adds, "It is of great importance to note whether there can be established a definite correlation between pathologic conditions and the length of time required for the sedimentation of the red corpuscles."

EARLY BLOOD SEDIMENTATION INVESTIGATIONS

So much has been written on the subject since 1918, when Fahraeus² discovered the decreased suspension stability of red blood corpuscles during pregnancy, that it is unnecessary to go into the history of the sedimentation phenomenon other than to state that for centuries it has been known that in certain diseases, characterized by inflammation and fever, the erythrocytes sedimented more quickly than was usual in the case of blood drawn from healthy individuals. In fact it was recognized during that period of medical therapeutics when bleeding was a common therapeutic measure, that rapid settling

of the blood cells was a symptom of grave significance. Following this discovery of Fahraeus many clinicians and laboratory workers investigated the blood sedimentation rate as an aid in diagnosis and prognosis in many varied surgical and medical conditions. A recent study by Cutler³ of Philadelphia on blood sedimentation in tuberculosis was the stimulus for the present work. The reports of Cutler and others^{4,5} indicate that by observing the rate of sedimentation of the red blood corpuscles, one has at his command a very valuable aid for determining the amount of activity present in tuberculous foci and that such information, especially when supplemented by repeated tests in the same individual, can supply a very important aid in reaching a decision as to prognosis.

Heretofore tuberculosis workers have labored under a tremendous handicap by having at their command no reliable tests upon which to base a definite opinion as to the amount and character of activity in tuberculous foci nor as to the individual patient's ability to exercise or resume work. It is true that the physician of experience in treating tuberculous patients can, as a result of observation and study of many patients, reach a point where his judgment in such matters attains a considerable degree of skill. His judgment is based upon the presence or absence of temperature, the character and rate of the pulse, the character and amount of cough and expectoration and the presence or absence of hemoptysis, pleurisy and digestive disturbances, by blood pressure readings, by physical and x-ray examinations and by observation and evaluation of a score of different signs and symptoms. But in spite of the greatest of experience and the best of judgment, errors will arise. Patients with doubtful prognoses will return to work and progress favorably, while others with apparently good prognoses will relapse. If then to this experience and judgment derived from observation and study can be added the simple test of blood sedimentation with the result that the percentage of error can be further reduced, a great step forward will be accomplished.

BLOOD SEDIMENTATION TESTS IN TUBERCULOSIS

Explained briefly the value of the test depends upon the following facts and premises:

1. When human blood is mixed with sodium citrate solution, so as to render it non-coagulable, and is placed in graduated test tubes and allowed to stand at room temperature, the red blood cells slowly settle toward the bottom of the tube leaving a supernatant layer of clear serum.

2. In normal healthy individuals this settling takes place very slowly. In women the settling may be slightly more rapid than in men and more rapid in menstruating than in non-menstruating women. These differences are not, however, great enough to affect the value of the test.

3. In cases of arrested tuberculosis the settling of the erythrocytes is not markedly different from that seen in normal blood.

4. In quiescent tuberculosis the rate of settling is slightly more rapid and more pronounced.

5. In active and very active tuberculosis the rate is much accelerated, the rate of settling being apparently, in a majority of cases, closely related to

* Read before the Regional Meeting of the American College of Surgeons, Sacramento, April 7, 1927.

the amount of activity and the seriousness of the disease.

CLASSIFICATION OF THE PATIENTS TESTED

In an attempt to correlate the sedimentation rate and the degree of activity, it was necessary to determine in advance the proper classification of the individual patients used in this experiment. This, it seemed to us, was the most important part of the problem or at least the part most fraught with error. It was decided that one of us (O'Connor) should have complete charge of collecting the blood specimens and make the sedimentation readings, while the other two (Peers, Durand), having the patients under daily observation, should make the classifications. The list of patients' names was supplied to us by the technician, and were classified by us into the following groups:

1. Apparently arrested, including working and non-working cases.
2. Quiescent.
3. Mildly active to quiescent; condition doubtful.
4. Mildly to moderately active.
5. Very active.

This classification was based:

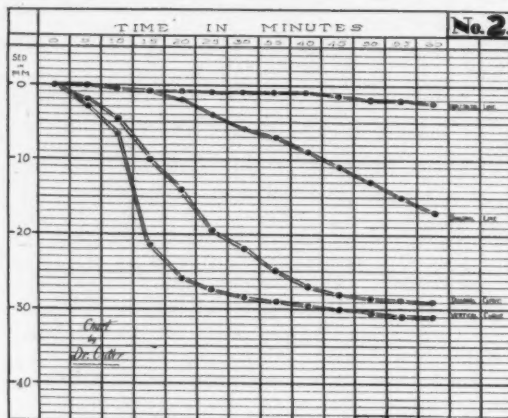
(a) In apparently arrested and quiescent cases, upon the length of time they had been free from fever and other signs of toxemia and upon the amount of exercise they could take or the work they could perform without signs of reaction.

(b) In active or very active, upon the severity and the number of the symptoms of toxemia and the length of time such symptoms and such severity had existed. The improvement or non-improvement or increase of symptoms was also taken into consideration.

The presence or absence of cough or expectoration or the presence or absence of bacilli in the sputum was not considered in the classification except that the occurrence of increased cough and expectoration was considered as evidence of activity even where other signs were absent. The classification was made as nearly correct as possible upon the experience and judgment gained by daily contact over a period of years in the treatment of many thousand patients and without attempting to make

individual patients fall into a class governed by strict fast rules.

Each of us (Peers, Durand) had a separate list of patients and classified each patient without consulting the other. When lists were compared it was



found that the classification agreed with a very small margin of difference.

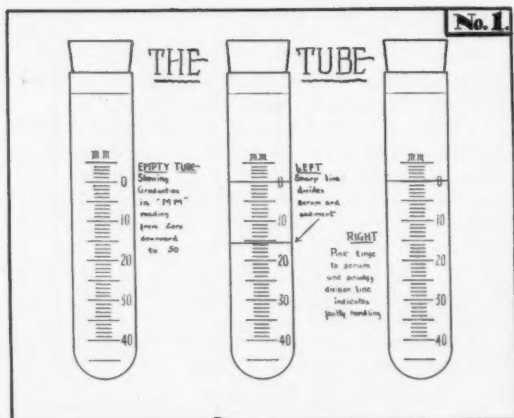
TECHNIQUE OF SEDIMENTATION TEST

The technique of Cutler, as described in the above-mentioned article, was used throughout, as were also the tube and sedimentation charts described by him. The type of tube is shown in Fig. 1. It is of 10 cc. capacity and graduated up to 5 cc.'s in tenths of a cubic centimeter and marked in millimeters. It is necessary that needles, syringe, and tubes be clean and dry.

A 5 cc. syringe with 20 gauge needle was used. Into this was drawn $\frac{3}{4}$ cc. of freshly prepared 3 per cent sodium citrate solution. The inside of the syringe was moistened throughout with the citrate solution and then enough of it expelled to leave exactly $\frac{1}{2}$ cc. in the syringe. The cubital vein was punctured and $4\frac{1}{2}$ cc. of blood added to the citrate solution. The needle was then withdrawn and removed. The barrel of the syringe was then drawn back and the contents mixed by carefully tilting the syringe back and forth until the solution and the blood were thoroughly mixed. The blood was then transferred to the sedimentation tube.

The blood was collected between 9 and 11 a. m., and the readings made within four or five hours. Usually five or six tubes were taken in the morning and allowed to stand in a rack with the tubes stoppered with paraffin-coated corks. Before reading, the rack and tubes were gently inverted several times so as to obtain a uniform suspension of the blood cells in the citrated plasma.

The readings were recorded on Doctor Cutler's sedimentation charts on which the horizontal lines represent the divisions in the sedimentation tubes and the vertical lines represent the interval of time, each vertical line representing five minutes of elapsed time (Chart 2). By recording on the chart each five minutes the millimeter reading on the blood tube, a graph is made from which the velocity of sedimentation at any period is easily noted. The sedimentation chart is a very ingenious and excellent



tation was considered as evidence of activity even where other signs were absent. The classification was made as nearly correct as possible upon the experience and judgment gained by daily contact over a period of years in the treatment of many thousand patients and without attempting to make

method of illustrating in a graphic manner just what happens in each particular blood studied. It makes a permanent record and is particularly valuable because a series of blood tests from the same patient can be recorded on one chart, thus furnishing an easy and quick method of estimating the correlation, if any, between changes in the clinical course of the patient's disease and changes in the manner of blood sedimentation.

INTERPRETATION OF SEDIMENTATION TEST

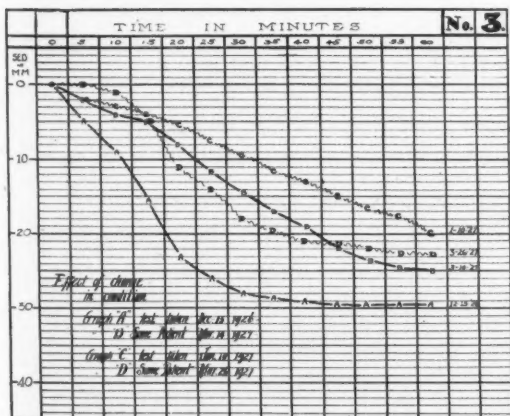
If there is a definite relation between the degree of tuberculous activity and the sedimentation stability of the blood and if, with disease activity, the blood sediments more rapidly according to the degree of activity, this should be clearly shown on the chart. This will be shown in two ways:

First, by the sedimentation time which is the number of minutes from the commencement of the count until the cells are beginning to pack and the sedimentation has definitely slowed up, which, in normal individuals, is always a period of several hours.

Second, by the sedimentation index which is defined by Cutler as "the total sedimentation of red blood cells at the end of sixty minutes expressed in millimeters."

In the normal person this sedimentation index should not fall below 10 mm. and may be as low as 2 or 4 mm.

The graphic chart should then, in normal humans, show an almost horizontal line when the sedimentation is charted. With departure from the normal, the index should be higher and the line assume a more diagonal course. In very active cases the line should, and does, drop more rapidly, and frequently shows a sedimentation time of between twenty and thirty minutes instead of several hours and a sedimentation index of between 10 and 30 mm. instead of a normal of less than 10 mm. with an average of 5 or less.

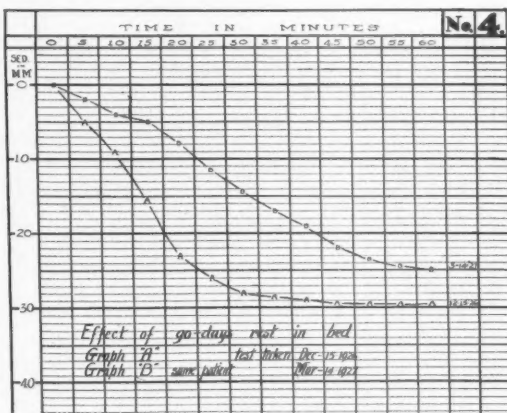


Cutler gives four graphs as the probable sedimentation lines to be seen in different types:

- (a) A horizontal line as seen in normal persons or in arrested tuberculous patients.
- (b) A diagonal line as seen in quiescence.

(c) A so-called "diagonal curve" representing slightly or moderately active disease.

(d) A so-called "vertical curve" representing moderately to markedly active cases. These are shown on Chart No. 2.



RESULTS IN 126 CASES STUDIED

Our series consisted of 126 cases classified as follows:

- (a) Apparently arrested, sixteen cases.
- (b) Quiescent, twenty-one cases.
- (c) Doubtful quiescent, nine cases.
- (d) Mildly or moderately active, fifty cases.
- (e) Very active, thirty cases.

Our findings, in the main, agree with Cutler. Our apparently arrested cases, many of them working, some for many years, almost uniformly showed a horizontal line with a low sedimentation index. Our very active cases showed, almost always, a diagonal or a vertical curve, except that our percentage of vertical curves was not so great as we should have expected.

On the other hand quite a high percentage of our quiescent cases gave a horizontal line. Also some of our mildly active cases, from a clinical point of view, gave a diagonal or quiescent line. These differences are probably due to one or more of three things:

1. The fact that no series of sedimentation tests can be expected to run true to form to the extent of 100 per cent.
2. The average sedimentation index as shown by Doctor Cutler may be too high for quiescent and mildly active cases.
3. We may have been too conservative in our classification and have erred in placing our patients in a class more unfavorable than that to which they were entitled. In this respect, however, we noticed that three of our active cases which gave a quiescent, or nearly quiescent line, developed shortly thereafter quite acute exacerbations, thus confirming the clinical judgment rather than the blood sedimentation picture. In two of these three cases, however, the sedimentation at the end of two hours showed a very marked drop such as was not seen in the two-hour pictures of our arrested or definitely quiescent group; which may indicate that there may,

in some cases, be a delayed sedimentation and that perhaps more attention should be paid to the two-hour sedimentation index in suspected active cases.

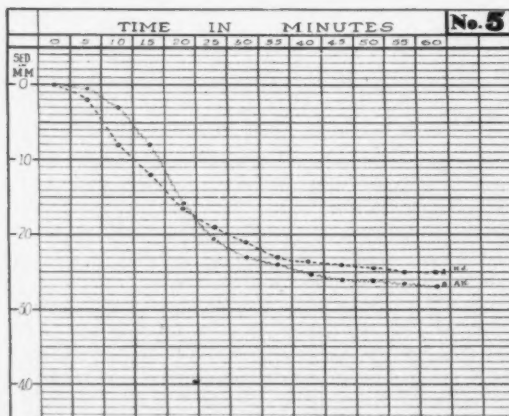
OTHER CHART INTERPRETATIONS

Chart No. 3 shows the curves on two patients where, in each, two different sedimentation tests were taken after a period of several weeks. The lines marked A and B represent the curves of one patient with an interval of three months—curve A being the result of a test taken on December 15, 1926; curve B being taken March 14, 1927. This patient, a very advanced case classified as very active, was put on bed rest and, no improvement being shown in her condition, was, after an interval of several weeks, given pneumothorax treatment with evident clinical improvement. Curve B showing a slower and less marked sedimentation would, in this case, seem to bear out the clinical evidence of lessened activity.

Lines C and D give the opposite picture. Line C shows the result of a test taken January 10, 1927, in the case of a patient with normal temperature, marked gain in weight and without any marked symptoms of toxemia. His sputum was negative for tubercle bacilli on numerous occasions. He was classified by us as active in spite of good general condition. His sedimentation curve, however, approached very closely the diagonal line of quiescence. March 20, he developed a typical exacerbation, and the line D shows the change to the diagonal curve of activity following a test taken March 26, 1927. It is of interest also to remark that his sputum was positive for the first time in nine months.

Chart No. 4 is another graph showing a separate picture of the improvement shown by lines A and B in Chart No. 3.

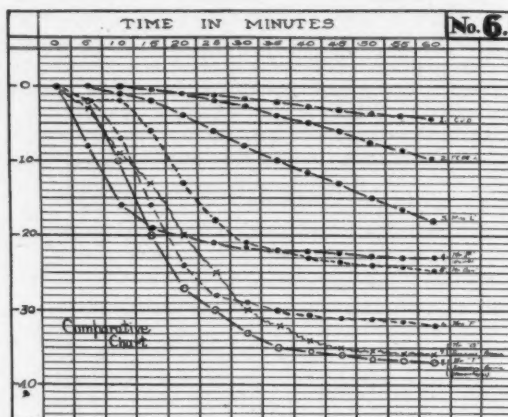
Chart No. 5 shows two interesting curves bearing out the judgment of the clinician based on his knowledge of the patients as a result of long observation. A is an advanced patient whose disease has been apparently quiescent for many months but who was classed as active and whose exercise has



been very closely supervised. Because, however, of the chronicity of his disease, he has been allowed to do a little clerical work at the institution to keep his mind occupied and to pay his expenses. He is allowed two or three hours per day keeping books.

He has, however, not been allowed to think of returning to work. His curve would seem to support the need of continuing his present mode of life.

Patient B is an advanced patient whose disease, as far as symptoms are concerned, has been appar-



ently quiescent for several months. His clinicians classed him as active and have limited his exercise to fifteen minutes per day, although other patients, with the same clinical history, are allowed as much as forty minutes. The curve B would seem to show the clinicians' judgment to be correct and would indicate that patient B requires careful supervision in spite of long and continued normal temperature, good weight and feeling of well-being.

Chart No. 6 gives a comparison of the graphs of different types of patients:

No. 1 is an apparently arrested case who has been working ten years.

No. 2 was classified by us as quiescent and yet falls within the extreme normal limit. This is a pneumothorax patient still under treatment but able to do some work.

No. 3 was classified by one of us as mildly active and by the other as quiescent. She has the quiescent or diagonal line.

No. 4 is a quite markedly active case, according to our classification—a case of hydropneumothorax. His curve shows a very quick drop, but the sedimentation index is only 23 mm.

No. 5 is a very advanced and, we consider, a very active case—more so than No. 4—but his drop is not so rapid although his one-hour index is slightly greater.

No. 6 is a very active advanced case with, we think, a hopeless prognosis. She has a quick drop and a high index.

No. 7 is one of pernicious anemia sent to us because of supposed tuberculosis which our examination failed to disclose. His curve is shown, as it bears out other authorities regarding the graph seen in pernicious anemia.

No. 8 is a case of advanced active pulmonary tuberculosis with tuberculosis complications and with a marked secondary anemia. He has the highest sedimentation index of all.

Chart No. 7 illustrates the appearance of the sedimented blood in the tubes as seen in six of the

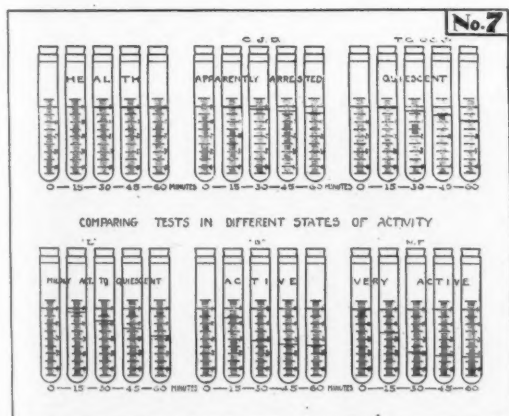
eight patients whose graphs were shown on Chart No. 6.

Chart No. 8 shows in percentage figures how the total number of patients on the different classifications were divided when classed according to the various lines of Cutler. This table seems to indicate to us that we have been perhaps too conservative in our classification and have placed a number of the apparently arrested cases in the quiescent group and have called mildly active many who were really quiescent. That is our feeling. Time alone will furnish the truth of the matter. After a year or two of follow-up we will be in a much better position to offer a definite opinion. The percentage table does, however, show one thing very strikingly and that is, that with the increase of activity there is a distinct shift to the right of the table. Thus, while at the top of the list the apparently arrested show 87.5 per cent of horizontal lines and 12.5 per cent of diagonal lines there are no diagonal or vertical curves, while at the lower end of the list in the case of the very active there are no horizontal lines, only 9.9 per cent of diagonal lines with 69.9 per cent of diagonal curves and 19.9 per cent of vertical curves. It is in the grades between, the quiescent cases and those from quiescent to moderately active, where the phenomenon of sedimentation is not so strikingly helpful. This may mean a large percentage of error in classification or it may mean that those patients in these middle classes whose graphs fall in the horizontal lines are, while more or less active, those with good prognoses; while those falling in the diagonal curve, even though apparently quiescent, are in the danger group. Time and follow-ups should help solve this problem.

CONCLUSIONS

From the study we have made we would draw the following conclusions:

1. That there is a very definite tendency to sedimentation instability of the erythrocytes in the blood of tuberculous patients.



patients improve and as their disease becomes quiescent or arrested.

4. That the sedimentation index in a majority of cases of active disease shows a sedimentation index away from the normal in proportion to the activity

| CLINICAL CONDITION | HORIZONTAL LINE | DIAGONAL LINE | DIAGONAL CURVE | VERTICAL CURVE |
|-----------------------------|-----------------|---------------|----------------|----------------|
| APPARENTLY ARRESTED | 87.5% | 12.5% | | |
| QUIESCENT | 47.6% | 38.1% | 14.3% | |
| MILDLY ACTIVE TO QUIESCENT | 44.4% | 44.4% | 11.2% | |
| MILDLY TO MODERATELY ACTIVE | 24. % | 26. % | 50. % | |
| VERY ACTIVE | | 9.9% | 69.9% | 19.9 % |

and to the seriousness of the patient's condition.

5. That the evidence furnished by the sedimentation index cannot at present be allowed to outweigh other evidence, but must be considered merely as additional data in summing up the estimation of activity or in determining the prognosis.

6. It may well be that one of the great benefits to be derived from this test will be from a study of a series of tests taken from time to time on each individual during the period of sanatorium residence. We feel that such serial tests will probably be of much greater value than single tests.

Colfax School for the Tuberculous.

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Dr. Abraham Zingher, noted bacteriologist who helped to perfect the Schick test for susceptibility to diphtheria, was asphyxiated June 5 in his laboratory in New York, while he dozed in his chair. He was conducting research into the Dick test for scarlet fever. The gas tube to a burner over which he was heating a test tube became disconnected while he slept. The body was found by Mrs. Zingher. The doctor was 42 years old. He had suffered a stroke of facial paralysis once before, and Doctor Gonzales, assistant medical examiner of the New York health department, who investigated the death, expressed the belief that he had suffered a second stroke while at his work. A sheaf of new-made notes lay beside him on the table on which his head rested when he was found.—*Ohio Health News*.

2. That there is a more or less definite relation between the degree of tuberculous activity and the sedimentation index of the patient's blood.

3. That this relation is shown by the tendency of the sedimentation index to approach the normal as

A DISCUSSION OF THREE CASES OF BILATERAL KIDNEY CALCULI*

By L. I. OPPENHEIMER, M. D.
Oakland

DISCUSSION by W. F. Braasch, M. D., Rochester, Minnesota; George G. Reinle, M. D., Oakland; James R. Dillon, M. D., San Francisco.

CALCULI of the upper urinary tract, according to Kuster, are bilateral in 11 per cent of all nephrolithics. Braasch found this incidence 9.9 per cent, and Federoff 15 per cent. At the Alameda County Hospital, for the past five years, 7.1 per cent of kidney calculi have been bilateral. During the last twenty months at the Oakland Health Center Urology Clinic, of the five patients with upper urinary tract calculi two have had bilateral stones. I wish to discuss these two cases, seen also by Dr. George Reinle, and one from my private practice.

SYMPTOMS OF CASES 1 AND 2

The symptoms of Case 1 were not characteristic of renal calculi; in fact, with the exception of a slight frequency of urination the complaints were referable to the gastrointestinal tract. In Case 2 frequency of urination, dysuria, pressure sense in the bladder, and vague abdominal pains might all have been due to the stricture of the urethra found upon examining this woman. When the urethra was being dilated for cystoscopy a severe attack of left-sided abdominal pain occurred. Close questioning elicited the history of a similar attack nine months previously, a fact missed at the first examination because the patient had two dependent children and was afraid she would be hospitalized if she told of her previous seizure.

ABDOMINAL, CYSTOSCOPIC, AND FUNCTIONAL EXAMINATIONS

On examination of the abdomen of Case 1 the lower third of the right kidney and the lower pole of the left were palpated without eliciting tenderness; in Case 2 the lower pole of the right kidney was felt.

The bladders of both presented moderate grades of chronic cystitis. There were no abnormal findings of the ureteral openings. All of the four separated urines contained pus and bacteria. The urine of the left kidney of Case 2 and that of the right of Case 1 showed the greater degrees of infection.

The left kidney of Case 2 excreted only a trace of dye and showed a marked reduction of the urea concentration. With the right kidney about 50 per cent efficient the total function of this patient ranged around 25 per cent.

In spite of the enormous stone in the left kidney of Case 1 its

excretion was 90 per cent normal. Since the opposite kidney excreted 30 per cent the total kidney function of this patient was approximately 60 per cent. That this reduced function created no excretory deficiency is shown by the low normal of the blood urea. Case 2 escaped observation before the blood chemistry could be taken.

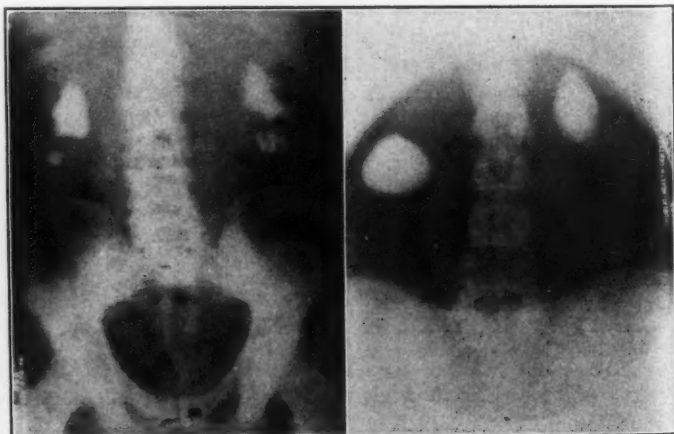
SYMPTOMS OF CASE 3

The clinical picture of Case 3 was entirely different from the two preceding ones inasmuch as this man had repeated attacks of typical renal colic and hematuria over a period of two years. The first seizure, in November, 1923, was the most severe and the longest in duration. The next attack was in March, 1924. From March to July the seizures occurred on the average of two times a week. From July, 1924, to June, 1925, there were no symptoms except a slight nocturia. On the afternoon of June 6, a marked frequency, attended by hematuria, was noted. Generalized abdominal pain started at about 6 p. m. It soon localized in the right flank and, for the next hour and a half, excruciatingly severe spasms radiated to the perineum. The attack subsided gradually. The hematuria persisted for twenty-four hours.

Examination, on the following day, revealed no tenderness or rigidity of the abdomen. Rectal examination established an enlarged prostate of doughy consistency which imparted a crackling feeling to the examining finger. A crunching sensation was produced by the passage of the cystoscope over the prostatic urethra, where pus was seen exuding from the prostatic ducts. Partial calcification of the prostate, probably tuberculous, was confirmed by roentgenological examination. The prostate pus was the cause of the cystitis, as both kidney urines were sterile. The function of the kidneys, as shown by the dye excretion and urea concentration, was normal.

DIAGNOSIS

Roentgenology, with Case 3, was a corroborative and amplifying measure. It was evident that the man had kidney calculi. The number, size, and disposition were demonstrated by the film. But with



Case No. 1

Case No. 2

* Read before the Alameda County Medical Society Meeting, September, 1926.

Cases 1 and 2 the roentgen ray was an essential in making the diagnosis due to inconclusiveness of the symptoms.

Although the symptoms of Case 3 were probably from the engagement of one of the small stones of the right kidney pelvis in the ureter two other possibilities had to be considered. On the first x-ray the shadow below the right kidney looked like a stone in a kinked ureter. But the opaque catheter in situ shows it is to be 3 cm. laterally. With the mass of the stones on the left, the possibility of referred pain had to be considered. This reflex is due to the arrangement of the afferent nerve fibers of the kidneys. Instead of all the groups of afferent nerves of the left kidney, for instance, going to the spinal cord and then to the brain, some may be relayed to the coeliac ganglion, to the opposite kidney, and thence to the higher centers. Thus trauma on the left side may produce pain on the right.

After the x-rays had been taken it was only with Case 3 that a differential diagnosis had to be considered. With the pyuria, calcification of the prostate and vague shadows in the regions of the kidneys; tuberculosis had to be ruled out. It was excluded by the findings of sterile kidney urine and good renal function. The latter would surely have been impaired if the condition had been the calcification stage of tuberculosis.

TREATMENT, CASES 1 AND 2

In Cases 1 and 2 operation is not indicated. The kidneys would be torn to pieces in getting the stones out and result in destruction of the already reduced kidney tissue. It is questionable whether all the calculous material could be removed even by splitting the kidneys from pole to pole and wide incision into the pelves except with the smooth stone of the right kidney of Case 2. Here, however, the function of the opposite kidney is not sufficient to care for the excretory needs of the body pending the postoperative recovery of its fellow. Postoperative hemorrhage requiring nephrectomies are frequent in complete nephrotomies. This possibility would be increased by the presence of the marked

infection in all of the kidneys to be worked upon.

Case 1 has been under constant observation. Attacks of right-sided pain, occurring about every four months, have been relieved by ureteral catheterization. At the last cystoscopy the catheter was caught and held in the right kidney, so that considerable force was necessary to pull it out. When withdrawn it was nearly broken in two close to its tip.

Two days later, after an attack of right-sided colic, the patient voided a small calculus.

TREATMENT, CASE 3

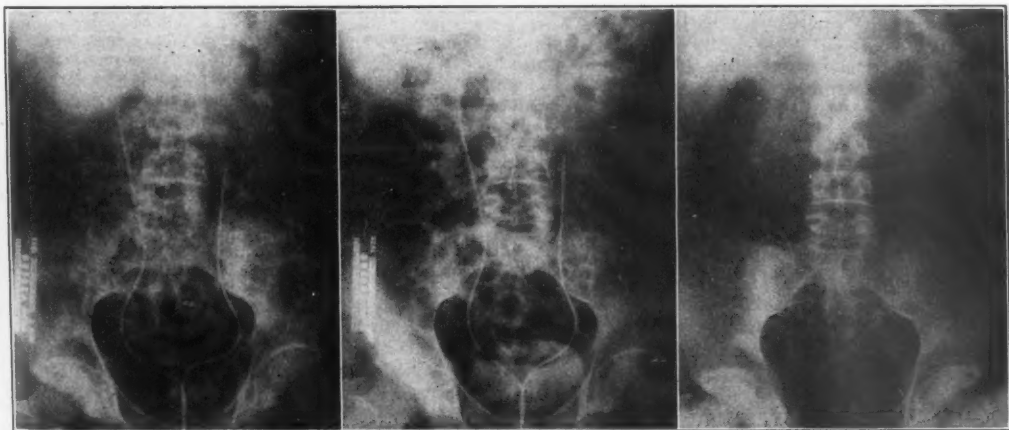
It is essential that both kidneys be rid of the calculi. While it appeared that the stones on the right side could be manipulated out, those on the left were of such size as to require surgical removal.

Advances in the surgical treatment of patients with kidney stones has lessened their previously poor prognosis. This is shown by the consideration of Cabot's 57 per cent postoperative recurrences as compared to Braasch's 10 per cent recurrence of stones after operation. Cabot's cases were collected previous to 1915, Braasch's series covered the years of 1921 to 1926.

This decrease in the recurrence is due to the more complete removal of the concretions. One of the greatest factors in these improved results is the more extensive use of the roentgen ray. In complicated cases the fluoroscope is used at the operating table to visualize and orient the stones when they are being worked upon. With inaccessible calculi, as in Case 3, this is the most certain method of effecting their complete removal.

Case 3, with the multiple, inaccessible calculi, was sent to Braasch, operated on by Hunt October 7, 1925, under direct fluoroscopic vision, and twelve stones removed. Since twelve stones were removed, this means that there was a superimposition of some of the calculi over others as the preoperative film shows only eight opaque areas. In operating on this patient without direct fluoroscopic vision the eight stones would have been removed and, if no others presented, the kidney would have been sewed up with a third of the stones remaining behind.

This visualization of the hidden calculi illustrates



Case No. 3

another essential advantage of renal fluoroscopy at the operating table.

When the patient returned I dilated the right ureter with bougies sizes No. 9 to No. 14. That same evening, after a slight attack of right-sided colic, the patient's statement was that he voided three small, semisolid, brownish-black masses.

These seem to have been the calculi of the right kidney, as the film taken July 1, 1926, shows this area free from shadows. There is about the same amount of calcification in the prostatic region as in the film taken a year previously. The opaque streak in the region of the left kidney looks like a calculous deposit in the kidney pelvic membrane rather than a stone.

Of the general care to be accorded these stone formers attention to the possible foci of infection is the most important. Cases 1 and 3 had abscessed teeth removed. Fruits and vegetables with an excess of calcium oxalate, such as strawberries, figs, rhubarb, and spinach, are prohibited.

They are put on distilled water, a measure instituted by Parks in the early 80's. One of his nephrolithic patients, a boilermaker, when told of his condition replied to the doctor that when one of his boilers became clogged, rain water was used. Following this precept the man drank distilled water and was said to have been relieved of his symptoms. Oschner popularized this measure.

With the exception of the clearing up of the foci of infection other procedures seem to be merely empirical therapy, for, according to Braasch, nephrolithics have certain cycles or periods when they are stone formers, and if the calculi are completely removed these individuals are no more liable to re-form concretions than anyone else.

ETIOLOGY

The formation of urinary calculi is no longer a field for idle speculation. Reinle called my attention to some recent work which, to my mind, definitely indicated the etiology.

The problem can be more readily understood if the urine is regarded as a supersaturate-salt solution, which it really is. If a like amount of water of the same temperature and reaction had the urinary salts added they would be precipitated. If, however, the urine's colloid content, consisting of albuminous material from broken-down cells, of pigment, cholesterol and lecithin, be added, these salts would remain in solution. If an insufficiency of these colloids were added there would not be complete solubility, but part of the salts would be precipitated. Likewise, an excess of the crystalloids, if added, would be precipitated. One of these factors must have been present in Case 3, where the kidney urines were sterile. But in Cases 1 and 2 the normal colloid balance was upset by the addition of a pathological exudate to the urine from the infection in the renal pelvis. The crystalloids were precipitated and calculi formed. Fortunately there are only a few infections which have this stone-forming property.

CONCLUSIONS

In conclusion I want to emphasize the importance of early diagnosis and treatment of urinary calculi. Otherwise, among other disasters, condi-

tions such as have occurred in Cases 1 and 2 may ensue. These patients also illustrate the fact that roentgenology should be utilized as a routine in conditions where the kidneys and ureters are suspected.

The third case illustrates the possibilities of manipulative removal of smaller upper urinary tract calculi. Usually it is only after weeks or months of intermittent effort that encouraging results are obtained.

Finally, in surgical treatment of multiple, inaccessible kidney stones, the renal fluoroscope when used at the operating table is not only a help, but is the surest method of insuring the complete removal of the calculi. Its use is limited to the largest of clinics because of the rather expensive installation for the comparatively few cases in which it is needed, and the requisite of a roentgenologist especially trained and experienced in this particular type of work.

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DISCUSSION

W. F. BRAASCH, M. D. (Mayo Clinic, Rochester, Minnesota).—Doctor Oppenheimer has emphasized the value of certain procedures in the diagnosis and treatment of renal lithiasis which have had comparatively recent recognition.

In making a plea for the more routine use of roentgenology, I would suggest that the roentgenogram be employed in every case suggestive of a lesion in the urinary tract irrespective of whether there is any pain referred to the kidney area. In other words, every patient with urinary symptoms, or with a urinalysis showing pus or blood, should be subjected to an x-ray examination of the entire urinary tract. While this would mean a large number of negative roentgenograms, nevertheless the percentage of positive films in this group would justify the routine procedure.

Renal fluoroscopy at the operating table has now been employed over a period of four or five years, and the results more than justify its use. Although difficulties may arise in elevating the kidney so as to permit of complete fluoroscopy, the percentage of cases where this has been a serious obstacle has in our experience been less than 10 per cent of the patients operated. Even though the kidney is not completely elevated, it is surprising how clear the renal outline can be visualized through the surrounding superficial tissues. Renal fluoroscopy has proven to be of great value to the surgeon operating for multiple renal stones, not only in determining the presence of stones remaining in the kidney, but also as a guide in localizing them. The necessity of some such procedure will be realized if the surgeon will make postoperative roentgenograms of all patients who have been operated for multiple renal lithiasis. The percentage in which remnants are left in the kidney will be found to be very high.

Doctor Oppenheimer stated that, owing to the expense of installation of the equipment, but few men can afford to use the method. With the widespread use of the portable x-ray unit in many hospitals this objection should not be valid. It is not necessary to go to the expense of darkening the operating room as completely as ideal circumstances would desire. Although it is advisable for the roentgenologist to be trained in this field, nevertheless with a little experience a fair degree of ability can be acquired. I would urge a more general use of the method. In fact, it seems questionable whether any surgeon is justified in operating for multiple stones in the kidney without the use of renal fluoroscopy.

✱

GEORGE G. REINLE, M. D. (Dalziel Building, Oakland, California).—Doctor Oppenheimer has so well covered the subject of renal calculus that, from the standpoint of management of these cases, he has left but little to be added. He touched upon the subject of etiology, how-

ever, and this opens up a fertile field for interesting speculation.

The etiology of renal calculus is still a secret, but one which, when we do solve it, will add greatly to the assistance we will be able to render those who have the stone-forming habit.

Among the various theories advanced as the cause of calculus we have two which at this time offer the best hope of yielding profitable results:

1. The theory of infection as a cause is interesting, and local infection of the kidney probably does play some part in stone formation, though that is a primary cause and remains as yet unproved. Focal infection, particularly of the teeth, has been advanced by Rosenow as a cause, and holds out alluring possibilities though this also needs substantiation.

2. The colloidal theory, to my mind, seems at the present the most promising of results, though it is as yet also no more than theory. Schade discovered that where urates are held in colloidal suspension by the protective action of true colloids the further addition of urates causes no precipitation, and the urates are held in suspension. These suspended particles tend to accumulate at any point where surface tension is increased. A pellicle or "gel" is formed. This "gel" entangling the crystalloid in its meshes contracts, and so we may have the nucleus of a calculus.

Practical conclusions may ultimately be drawn from one or the other of these theories, or possibly from both, in which case we will have taken a forward step in the prevention of calculus if not in its care after formation of the stone.



JAMES R. DILLON, M.D. (490 Post Street, San Francisco)—The subject of urinary calculi has been very well covered in its different phases by Doctor Oppenheimer and discussed by Doctors Braasch and Reinle. One element in the diagnosis which has been particularly impressed upon me several times, is the technical part of exposing the film in taking the roentgenogram of the urinary tract. Practically all of our technicians are laymen, with little or no knowledge of the deeper anatomy or physiology. They merely place the patient and apparatus in the proper position and time the exposure according to the size and thickness of the patient. The roentgenologist will then render an opinion and sign his name to it from an interpretation of the film without ever seeing the patient, and frequently with no knowledge of the symptoms, or the reason for the roentgenogram.

Two cases have recently impressed this faulty system upon me. One was a bladder stone 6 cm. in diameter and 4 cm. thick, which did not show in three films preliminary to cystoscopy which showed it, and was later removed by a cystotomy. The second case was reported negative, and on my insistence was again studied by the roentgenologist, who made allowances for the bowel condition present, and a film was obtained showing clearly a stone 1 cm. in diameter in the lower pole of the kidney and a small one 3 mm. in diameter in the lower end of the ureter, which were later removed at operation. Correction of such errors will be obtained when the roentgenologists consider themselves more in the light of medical consultants, taking a more personal interest in the patient with possible urinary-tract lesions, and give a little more personal attention to the taking and retaking of films instead of mere interpretation of often faulty roentgenograms.

Anti-Snake Bite Serum Now Available—The first license ever granted for the production and interstate sale of anti-snake bite serum in this country was recently issued by the treasury department at Washington, upon recommendation by the United States public health service. The license was issued April 25, 1927, and marks the culmination of some ten months' intensive work on the part of Dr. Alfranio do Amaral—a Brazilian authority on snakes, snake venoms and antivenins—whose leave of absence from his official position has been extended to permit him to undertake the development of anti-snake bite serum in this country.—*Medical Herald and Physiotherapist*.

CHRONIC HEART DISEASE COMPLICATING PREGNANCY *

By ROBERT WILLIAM LANGLEY, M. D.
Los Angeles

DISCUSSION by Norman H. Williams, M. D., Los Angeles; Lyle G. McNeile, M. D., Los Angeles.

DURING the last five years several attempts have been made to compile accurate statistics concerning the course of a pregnancy complicated by heart disease. Earlier workers have reported a rather high and varying maternal mortality. These ideas have long needed accurate statistical confirmation. Recently Stander, Duncan, and Sisson confirmed the work of Boycott, Dunn, and Peters by studying the cardiac output in pregnant and non-pregnant dogs.¹ They concluded that the volume output of blood from the heart was markedly increased in the case of the former; being one-third to one-half greater than before. It appears probable that this increased output was maintained by taxation on the reserve force of the heart.

It would seem that in women also, pregnancy calls upon the cardiac reserve force.² Therefore the amount of available reserve is of prime importance in the determination of the mode of action to be pursued in all types of heart disease. Available statistics show that some types of heart disease are more prone to damage the heart muscle and to use up the reserve force than are others.³

Pardee⁴ in a report of thirty-five carefully selected cases found fifteen with serious failure and four deaths. Mitral stenosis was the most frequent lesion, with mitral regurgitation and aortic regurgitation next in order. He concluded that abortion is not often indicated and that with proper observation and treatment heart failure should not occur during pregnancy.

Campbell,^{5 6} working on the same subject over a number of years believes on the other hand that marriage and pregnancy are not justifiable in women with auricular fibrillation or myocarditis, and believes further that abortion and sterilization are always indicated in these conditions. He adds that each succeeding pregnancy still further damages a diseased heart.

A STUDY OF 33 COMPLICATED PREGNANCIES

Examination of the records of thirty-three pregnancies complicated by heart disease at the Los Angeles General Hospital shows that 29 probably suffered from organic heart disease; 14 mitral stenosis, 9 organic mitral regurgitation, 4 aortic regurgitation, 1 heart block, and 1 mitral and aortic regurgitation combined. In three the mitral stenosis was complicated by auricular fibrillation, in five associated with mitral regurgitation.

| TABLE 2 | | Per Cent |
|---|----|----------|
| Mitral stenosis | 14 | 48 |
| Mitral regurgitation | 9 | 31 |
| Aortic regurgitation | 4 | 13.8 |
| Mitral stenosis and aortic regurgitation..... | 1 | 3.4 |
| Heart block | 1 | |

Examination revealed no enlargement in 13, slight

* Read before the Los Angeles Obstetrical Society, October 12, 1926.

enlargement in 7, moderate enlargement in 4, and considerable enlargement in 5.

TABLE 2

| | Per Cent |
|--------------------------------|----------|
| No enlargement | 13 44.8 |
| Slight enlargement | 7 24.1 |
| Moderate enlargement | 4 13.8 |
| Considerable enlargement | 5 17.2 |

Of the patients with considerable enlargement two had mitral stenosis and two had aortic regurgitation. One had mitral stenosis also and one mitral regurgitation alone.

Of the twenty-nine patients nine had evidence of heart failure during some part of gestation; of these, two died: one at five and one-half months of mitral stenosis following a therapeutic abortion, the other one month after delivery, of mitral regurgitation. In the group showing failure five had considerable enlargement and four only slight or moderate enlargement. In the failure group six had mitral stenosis, one mitral regurgitation, one mitral stenosis with mitral regurgitation, and one aortic regurgitation with mitral stenosis.

TABLE 3

ANALYSIS OF THE NINE FAILURES

| | Per Cent |
|---|----------|
| Mitral stenosis..... | 6 66.6 |
| Mitral regurgitation | 1 11.1 |
| Aortic regurgitation and mitral stenosis..... | 1 11.1 |
| Mitral stenosis and mitral regurgitation..... | 1 11.1 |

This series of cases is entirely too small to establish a basis for conclusions, but the salient features of certain of them may be of some prognostic value. There were two deaths: one occurring at five and one-half months in a patient having a history of an old mitral stenosis with several previous attacks of failure, the other a patient with mitral regurgitation one month after a severe prolonged delivery.

NEED OF EARLY EXAMINATIONS

The most important factor in directing treatment is early and repeated examinations. Some attempt should be made to classify such patients according to the amount of work the heart can do. The classification adopted by the American Association for the Prevention and Relief of Heart Disease offers a basis upon which to work. By it patients are divided into one of the following groups:

1. Patients with organic heart disease who are able to carry on their habitual physical activity and whose exercise tolerance tests are good.
2. Patients with potential heart disease who do not have any suggestion of cardiac disease but who are suffering from an infectious condition which may be accompanied by such disease, eg., rheumatic fever, tonsillitis, chorea, syphilis, toxic goiter, etc.
3. Patients with organic heart disease who are able to carry on diminished physical activity as shown by exercise tolerance tests.
4. Patients with organic heart disease who are unable to carry on any physical activity as measured by exercise tolerance tests.

Exercise tolerance tests consist of climbing two flights of stairs of ten steps each without stopping or the raising of two five or ten-pound dumbbells from the floor twenty times. Symptoms to be looked for include unusual dyspnea, palpitation, an in-

creased pulse rate that does not return to normal within two minutes, continued elevation of blood pressure, etc.

TREATMENT IN GENERAL

Management will naturally be governed by the results of these cardiac reserve tests and should not depend upon the character of the heart murmurs. During the course of gestation examinations should be made with increasing frequency. Heart failure seldom comes on suddenly, but rather gradually over a period of days or weeks at the most. It may rarely come on during the hours of labor. In the event of beginning failure the early signs of increased pulse rate, lowered vital capacity readings, lowered exercise tolerance and appearance of fine moist rales in the bases of both lungs posteriorly become evident. These are the early signs of failure and should be treated vigorously in order to prevent the appearance of the more pronounced signs of edema of the extremities, enlargement of the liver, frothy blood-tinged sputum, cyanosis, etc. The best treatment during these early stages is absolute rest in bed, preferably in a hospital. Rapid digitalization should be produced by large doses of the tincture or the powdered extract of digitalis by mouth. Fluids should be restricted and a soft nourishing diet given.

Operative interference should always await the results of this régime. Medical management should be properly carried out until it is quite evident that the heart muscle is unable to be restored and carry on through the remaining period of pregnancy, however long that may be.

Whenever interference becomes a necessity the procedure must be aimed toward relief of the strain on the heart muscle as quickly and with as little work as possible. This general principle should apply at all times whether or not the patient is in labor.

If the patient has progressed into a severe heart failure operative procedures offer little hope. The added strain of manipulation may be the deciding factor in a death. The operative time should be chosen, if possible, just as carefully as it is in toxic goiter.

After a severe failure has been improved to the point of disappearance of the signs of congestion it may become necessary to advise the patient whether or not the pregnancy should be continued. This decision may be difficult to make. One should be able to state whether the patient is liable to develop severe failure during the labor and whether the heart will be further permanently damaged by this pregnancy. The decision may be made on the basis of the risk the patient wishes to take with her own life in regard to saving or losing the child. How anxious is the mother that this child be born?

TREATMENT OF PATIENTS IN THIS SERIES

As to treatment of the classes mentioned above it would seem advisable to terminate labor as soon as a diagnosis of pregnancy has been made in Group 4. Labor should be induced at the eighth month in those falling in Group 3 where the patients have carried through their pregnancies fairly well. Patients in Groups 1 and 2 should be treated expectantly.

Certain patients are seen in severe failure only during or at the beginning of labor. At these times

heroic measures become necessary. Rapid digitalization intravenously or intramuscularly or even strophanthin grain 1/200 may be given. Labor should be terminated by the shortest possible route. An expectant policy at this time is not advisable. Low forceps or low caesarean section, possibly under local anesthesia or combined with ethylene gas, should be employed.

The anesthetic must interfere as little as possible with the action of the heart and blood vessels.⁷ Nitrous oxide-oxygen gas should not be used because of its tendency to increase blood pressure in the early stages and because of the anoxemia associated with this particular anesthetic. The anesthetic of choice is ethylene-oxygen gas. Twenty to 25 per cent oxygen may be introduced, and no increased blood pressure has been demonstrated with this anesthetic and its influence on the circulation is small.

SUMMARY

It would seem from this study that abortion is rarely indicated in heart disease complicating pregnancy except where the patients are unable to carry on any physical activity. Such patients are not common.

Management will depend entirely upon the cardiac reserve force as determined by exercise tolerance tests and not upon the basis of the murmurs heard.

Surgical interference should never be withheld at any stage where the evident signs of failure do not disappear with diligent and thorough medical management.

From the facts brought out in this report it is believed that maternal mortality should be low where the heart condition has been recognized early and is properly treated.

1052 West Sixth Street.

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7. Cardiac Decompensation During Pregnancy. K. L. Schaupp, Anesthesia and Analgesia, February, 1926.

DISCUSSION

NORMAN H. WILLIAMS, M. D. (1052 West Sixth Street, Los Angeles)—Heart disease complicating pregnancy is a cause of anxiety on the part of the obstetrician and frequently calls for a nicety of judgment in the matter of treatment. It is amazing, however, in spite of the theoretical increased demand upon the cardiac reserve incident to pregnancy, to find a large percentage of these cases unaffected by pregnancy and labor.

In his analysis of failures Langley presents nine cases, eight of which had a primary or associated mitral stenosis. Of all the heart lesions it would seem that this is the most dangerous, with possibly aortic regurgitation coming second.

Whether or not exercise tolerance tests can be utilized in pregnancy as satisfactorily as in the nonpregnant state is questionable, particularly in the latter months of preg-

nancy. Pregnancy itself is conducive to general diminished vitality and reserve power, often resulting in dyspnea, tachycardia, etc., upon least exertion with no demonstrable cardiac deficiency.

In treatment of definite heart disease during pregnancy no general rule can be laid down, each case being a problem of its own. However, I believe it is very seldom that an abortion or induction is necessary, for often these procedures are quite as much of a strain as the labor itself, especially if the labor is conducted under analgesia or spinal anesthesia.

There is a type of case that Langley has not mentioned which often calls for mature judgment on the part of the obstetrician. I refer to the acute toxic cases, as those complicated by pneumonia, acute thyroidism, etc., particularly those appearing at or about term. Though these cases are not primarily heart conditions, it is the heart which requires special attention. In these, in the interest of the child as well as the mother, pregnancy should be terminated, and in such a way that will cause the least strain. Often a general anesthetic is contraindicated. It is in these that spinal anesthesia has its best field of usefulness. Under it the soft tissues of the pelvis become entirely relaxed, allowing, if necessary, an accouchement forcé to be performed with rapidity, with little or no strain to the patient.

LYLE G. McNEILE, M. D. (523 West Sixth Street, Los Angeles)—The necessity for a complete physical examination of every pregnant woman has often been emphasized, and too great emphasis can hardly be laid upon this point. It is only by careful and systematic chest examinations that the early case, or the advanced case whose heart is not decompensated, can be recognized. I regard early recognition and appropriate hygienic treatment as the most important factors in obtaining satisfactory end results in cardiac cases.

Advice to a patient upon the question of exercise, long walks, etc., can only be intelligently given after a careful physical examination, at which due consideration is given the present condition of the heart and its ability to withstand the additional strain of pregnancy, and the extraordinary strain of labor.

If at his preliminary examination any evidence of heart disease is found, detailed instruction regarding restriction of exercise and prescribed periods of rest should always be given. The progress of such cases can only be properly watched by repeated systematic examinations throughout the pregnancy.

In a considerable number of cardiac cases at the Chicago Lying-In Hospital it was found that the particular lesion was not of such great importance as was the state of the heart as to decompensation. It was seldom necessary to terminate the pregnancy. This has been our experience at the Los Angeles Maternity Service and at the Los Angeles General Hospital. The performance of a therapeutic abortion for cardiac disease is fraught with very considerable danger, and should seldom if ever be done without preparing the patient by absolute rest in bed, with indicated digitalization, for several days or weeks.

It is unwise to attempt to generalize in the matter of selecting a method of delivery for cardiac cases. The literature is filled with statements in which one author dogmatically assumes that no cardiac case should be subjected to the strain of labor, while another may go to the other extreme. Each case should be judged upon its merits, always bearing in mind that an already overworked but perfectly compensated heart may not be able to survive the strain of labor.

The danger to the patient may not be over at the termination of labor, and it is very wise to keep these patients in bed over a considerable period, and to supervise them for a year or longer. The question of permitting a cardiac patient to nurse her baby should be carefully considered. While it is true that in perhaps a majority of cases breast feeding may be permitted, lactation undoubtedly is a serious drain upon the mother who has an organic heart condition.

I believe Doctor Langley has presented this subject in a safe, conservative manner.

PROGRESS IN MEDICINE ON THE PACIFIC COAST DURING 1926-27*

By P. J. HANZLIK, M. D.
San Francisco

THE following brief summary of achievements in Medicine on the Pacific Coast is limited to recently completed research whose significance may be readily appreciated. In view of this restriction, and of the limited time for presentation, the summary is necessarily incomplete, and does not render full justice to the large activities in medical research here. Nor, is it possible, unfortunately, to mention everyone engaged in research, or instrumental in bringing to successful fruition or conclusion the results discussed. However, it is to be hoped that this record will serve as an inspiration to all in furthering the aims and objects of scientific medicine, whose special concern is the welfare of humanity.

The achievements fall into three general groups, which may be conveniently designated as follows: (1) Constitutional Factors in Health and Disease, (2) Treatment of Disease, and (3) Fundamental Investigations of Causes and Mechanisms of Biological Phenomena.

I. ACHIEVEMENTS IN 1926-27 AS REGARDS CONSTITUTIONAL FACTORS IN HEALTH AND DISEASE

This group includes the results of studies on dietary deficiencies (avitaminosis), sex development, reproduction, endocrin organs and heredity.

The body is essentially a community of self-regulated organs working in harmony, but the co-operations and interrelationships are not yet established for many organs and in the cases that are known, the mechanisms remain obscure. The endocrin organs present an alluring but rather difficult field for research in this line. With them the doctrine of interrelationship has been frequently invoked for want of better explanations of their functions, or reasons for existence, but the postulated mechanisms have frequently lacked the necessary or critical evidence. The importance of knowledge in this domain must be obvious, for it will give us not only a correct physiology, but it will also be valuable in facilitating the recognition of inharmonious actions as the cause of disease and promote rational methods of prevention and treatment. It is along these lines that some striking results have been achieved during the past year.

Heretofore, it has been generally believed that the removal of the pituitary gland has no effect on sexual development or function, but Prof. P. E. Smith of the Stanford Department of Anatomy has shown that the removal of the gland in the rat produces an invariable and characteristic syndrome, the chief features of which are inhibition of growth in the young or loss of weight in the mature animal, atrophy of the thyroids, adrenal cortex and sex organs, weakness and cachexia. Moreover, he

has found that these disabilities are curable by daily implantations of the fresh pituitary gland into the muscles. Cures are not obtainable with extracts or preparations of the pituitary, or with other organs, indicating that the action is specific and dependent on living gland transplants. Premature sexual maturity can be induced with only the anterior component of the pituitary, thus indicating an important hypophyseal-gonadal interrelationship, and giving a conclusive proof for the first time of the importance of this gland to the body. The method of live organ implantations bids fair to attain considerable popularity in endocrinology. It is now being used successfully in Europe with both the anterior pituitary lobe and the ovary.

Another possible interrelationship between the glands of internal secretion, or their products, is suggested from the results of Professors G. L. Foster and P. E. Smith of the Departments of Biochemistry and Anatomy of the University of California, which show that the greatest effect of thyroid therapy on basal metabolism occurs in animals deprived of their pituitary glands.

The adrenal glands, in some way, help to increase the resistance of the body to poisons and are themselves affected by removal of the kidneys. For, Doctors T. Addis and L. L. and E. M. MacKay of the Department of Medicine at Stanford have confirmed that the tolerance for morphin of rats deprived of adrenals is decreased. Furthermore, they found that increasing doses of morphin in normal rats cause a hypertrophy of the cortical portion of the adrenals. When experimental uremia was produced by removal of the kidneys, the adrenal cortex hypertrophied and such rats tolerated from 40 to 100 per cent higher doses of morphin than the controls. This observation squares up with the common clinical observation that uremic individuals often tolerate very large doses of morphin.

The same investigators found also that the feeding of high protein diets to rats increased the size of the kidneys. Their results indicate the inadequacy of the simple hypothesis of a work hypertrophy to explain the effect. According to Dr. F. R. Nuzum of the Santa Barbara Cottage Hospital, high protein diets in animals cause arteriosclerosis and increased blood pressure. These results justify the suspicion that high protein diets may be detrimental to health, and the limitations of such dietary in the treatment of nephritic and related conditions.

The influence of sex function on body weight and growth has long been suspected but not conclusively proven until recently. Prof. J. R. Slonaker of the Department of Physiology at Stanford has shown that female rats giving birth to large litters of young throughout life grew to 30 per cent greater weight than their virgin sisters, while males who indulged excessively sexually became markedly stunted. Weight and growth of rats can be increased to from 10 to 20 per cent steadily throughout life by the daily administration of exceedingly small quantities of iodide with their food, shown by myself and associates. This result is consistent with a decrease in metabolism caused by small doses of iodide, reported by German investigators. The results

*Report on Research before the Pacific Division, American Association for the Advancement of Science at Reno, Nevada, June 23, 1927.

From the Department of Pharmacology, Stanford University School of Medicine, San Francisco.

agree with the beneficial alterative effects of small doses of iodide claimed by physicians, veterinarians and others. Economically, the result should be of importance in the saving of feed for increasing the weight of livestock, as indeed already appears to have been tried successfully with pigs. The iodide administration must not be overdone, for large doses have the opposite effects of small ones. There are many unfounded beliefs among physicians and the laity about iodine. One notion is that small doses of it slow the pulse in normal individuals. However, careful observations by Dr. J. Marion Read of the Department of Medicine at Stanford of several normal individuals of both sexes receiving ten drops daily during ten-day periods of Lugol's solution containing iodine in iodine revealed no appreciable changes in pulse rate.

Equally important are the results of researches on vitamins and effects of dietary deficiencies. The curative efficiency in sterility of the fertility vitamin E (in wheat germ), discovered by Prof. H. M. Evans and associates of the Department of Anatomy, University of California, is found by the same investigators to be impaired by high-fat diets, notably after the use of lard, but not of butter. Presumably through some solvent influence fats may modify, therefore, the effects of this important dietary component. According to Dr. I. Manville of the University of Oregon Medical School, the addition of increased quantities of yeast to diets helps to prevent sterility.

It has not been sufficiently appreciated that certain so-called specific deficiency diets cause general organ and tissue injuries. Mother rats kept on a restricted vitamin B diet, though adequate for successful growth and reproduction, are not adequate for rearing of their young, for the latter die of cerebral and visceral hemorrhages and polyneuritis, according to Dr. C. U. Moore and associates of the Collins Nutritional Research Laboratory of the University of Oregon Medical School. Increasing the yeast in the diet materially reduces the mortality. Incidentally, these investigators found that curly kale was richer in vitamin B and iron than spinach. The gross and microscopic tissue changes in the experimental scurvy of guinea pigs studied by Prof. A. W. Meyer of the Department of Anatomy at Stanford, are characterized by necrosis, changes in teeth and cartilages, marked destruction of all muscles, nerves and blood vessels; fatty changes in the liver, kidneys, adrenals and lungs; hemorrhages in the central nervous system, and anemia with increased fragility of corpuscles. There is literally a dissolution of the body. It would seem that morphological studies in all dietary deficiencies are needed. Pyorrheal changes in teeth and gums have been reproduced in rats on deficient diets used by Dr. J. C. Marshall of the College of Dentistry of the University of California. Bacteriological studies of the same condition by Prof. T. D. Beckwith of the Department of Bacteriology in the same university show that there are numerous living forms, mainly streptococci, in the gums; and the periodontal membrane is capable of regeneration,

a hitherto disputed phenomenon, but now held to be valid.

Another factor for good or bad in our bodies is heredity. This will not be understood until various manifestations can be reproduced experimentally. Striking examples of recent achievements in this line are the production for the first time of hereditary obesity and of hereditary anemia in mice by Prof. C. H. Danforth of the Department of Anatomy at Stanford. The fat of these obese mice seems to be deficient in unsaturated fatty acids. In the anemic mice, the corpuscles are produced more slowly and disappear from the circulation more rapidly than in normal animals.

II. ACHIEVEMENTS IN 1926-27 AS REGARDS TREATMENT OF DISEASE

An important difficulty in the lead treatment of cancer introduced by W. Blair Bell of London has been the instability of the colloidal lead preparation. Doctors N. R. Blatherwick and F. E. Bischoff of the Santa Barbara Cottage Hospital have corrected this difficulty by dispersing the metallic lead electrically in the presence of glucose and gelatin by the classic Bredig apparatus, thus obtaining a colloidal preparation which keeps for months, is not sensitive to salts and does not increase in toxicity on standing. The dextrose prevents rapid oxidation of the lead, which appears to be the main source of trouble in obtaining stable products. This lead is an excellent reducing agent. The same investigators have further evolved a substitute, namely, a colloidal lead phosphate, which is relatively nontoxic and affects cancer tissue. Results with these colloidal leads have been obtained and careful studies made in thirty cancer patients to date by Dr. H. J. Ullmann of the Santa Barbara Hospital.

The troublesome yeast infections among fruit pickers and dealers, known as fruit poisoning in Oregon, can be cured by applications of thymol and other volatile oils according to Prof. H. B. Myers of the Pharmacology Department, University of Oregon Medical School. The same fungicides may be therapeutically useful in certain lung infections. Their fungicidal efficiency can be determined in vitro.

Ephedrin, the active alkaloid of the 5000-year-old Chinese drug ephedra, is one of the most useful recent additions to the therapeutic armamentarium for the treatment of asthma, local nasal conditions, hay fever and possibly low blood pressure in shock, but it is very expensive. The commercial alkaloid may not be uniform in composition or purity. The crude drug from which it is obtained must be imported. A domestic source of the crude drug, or a cheap synthetic ephedrin or substitute, would be desirable. Prof. G. W. Clark and associates of the Department of Biochemistry and Pharmacology, University of California have found that *Ephedra Californica* (Wats) growing in Fresno County, and *Ephedra Nevadensis* in Mohave and Colorado deserts, possess actions similar to the Chinese ephedra and ephedrin, but specimens of the Nevada variety, studied in our laboratory were inactive and did not contain the alkaloid. A promising substitute for ephedrin, and possibly for epinephrin, has

recently been synthesized by Dr. Gordon Alles, chemist in the clinic of Doctors George Piness and Hyman Miller of Los Angeles. The product is a phenylethanolamin with a toxicity one-third that of ephedrin, and an activity greater and more sustained on blood pressure than that of ephedrin and certain other amines. Contrary to the claims of others, ephedrin does not act by stimulating the sympathetic nerves like epinephrin. Its seat of action is in the muscle as shown by Dr. F. De Ede in our laboratory, for among other reasons, ineffective doses of cocain, which sensitize the sympathetic nerves and increase the blood pressure action of epinephrin, abolish the action of ephedrin.

A therapeutic method of standardizing preparations of digitalis in pigeons, which depends on establishing the minimal emetic dose per kilo, has been worked out by Mr. A. B. Stockton and myself. It has the advantages of simplicity and economy of time and material without sacrifice of accuracy over other bioassay methods. With this we have satisfactorily estimated the probable therapeutic dose for a sustained slowing of the heart in man.

The results of treatment of the blood and other infections with the dyes mercurochrome, gentian violet and acriflavine have been notoriously irregular, but Prof. Victor Burke of the State College at Pullman, Washington, finds that a number of controllable factors may be the cause of the irregularity, such as the method of preparation of the dye solution, its chemical reaction, stability, osmotic pressure, etc.; the dyes are bacterially selective and the combined action of the host and the dye on the bacteria should be considered. Certain fundamental principles in chemotherapy based on a study of staphylococci infections in mice treated with a series of mercury benzene derivatives have been established by Doctors E. L. Walker and A. M. Sweeney at the Hooper Institute for Medical Research, University of California. An exact relation exists between chemical constitution and therapeutic action; the two factors essential in the chemical constitution being toxophore and chemophore groups. The toxophore group may be either a toxic metallic element, like mercury, or a peculiar arrangement of non-toxic elements in the molecule. The chemophore group is divided into primary and accessory groups which, by themselves, may be inactive until introduced into the benzene ring. The relative position of the toxophore and chemophore groups to one another is essential for therapeutic activity. The therapeutic efficiency of the series of mercury compounds tested (against fatal infections in mice) varied from 0 to 100 per cent when the drugs were brought into immediate contact with the bacteria, but this was greatly reduced by indirect contact through the blood and tissues. Nevertheless, proper chemical manipulation of the molecule offers chemotherapeutic possibilities in the future, but a treatment for each bacterial infection may have to be developed independently.

III. ACHIEVEMENTS IN 1926-27 AS REGARDS FUNDAMENTAL INVESTIGATIONS OF CAUSES AND MECHANISMS OF BIOLOGICAL PHENOMENA

In this group have been placed a variety of results from the study of biological phenomena

which are intimately associated with or bear on problems in medicine.

Doctors O. B. Williams and F. R. Van de Carr of the Hooper Foundation for Medical Research, University of California, report that anaphylactic shock in the majority of guinea pigs can be prevented or ameliorated by the previous injection of heparin, a blood anticoagulant. This suggests that the cause of the symptoms is a physical one. Successful prevention of the shock in pigeons receiving heparin has been reported by Kyes and Strauser of Chicago, but Messrs. E. M. Butt and A. B. Stockton and myself have not been able to confirm this. Pigeons have served us admirably for studying the muscular responses in the allergic state; a reciprocal motor action of the two muscular coats in the anaphylactic crop has been discovered. This action occurs under physiological conditions and is indistinguishable from the actions of certain drugs in the normal crop so that from these and other results it appears the allergic muscular state represents only a quantitative change from normal without the elaboration of specific toxic products.

Using special experimental methods, Prof. W. H. Manwaring of the Department of Bacteriology at Stanford has obtained results which support the idea that injected antigens are changes by enzymes to many products to which adaptations exist, although they are not yet demonstrable. Contrary to previous claims, Prof. E. W. Schultz and associates of the Department of Bacteriology at Stanford have found that the viruses of vaccinia, rabies and herpes do not stimulate the production of complement-fixing and precipitating antibodies, but that the serums of immunized animals exert simply a neutralizing action similar to that of antitoxin for toxin. The method used insures the purity of viruses for the purpose. Toxins of the tubercle bacillus have been demonstrated in Berkefeld filtrates of cultures by Dr. Frederick Eberson of the Department of Medicine, University of California. The substance in skin tests measures susceptibility or resistance to infection and an anti-serum has been prepared that neutralizes such skin reaction. The newly isolated substance, unlike tuberculin, is destroyed by heat and behaves in other respects like a toxin.

According to Prof. J. P. Baumberger of the Department of Physiology at Stanford the clotting of blood varies with its carbon dioxide tension, the clotting of shed blood being more rapid as the CO₂ falls. Prof. O. Larsell of the Department of Anatomy, University of Oregon Medical School finds that injected nuclei and nucleic acid stimulate the blood-forming organs.

Summaries of several years' studies in climatic physiology have been made by Dr. E. S. Sundstroem of the Department of Biochemistry, University of California, in which the results of adaptation, blood composition, pigmentation and reproduction in rats, and on the adaptation of the white man to the climate of North Queensland, are discussed. In the first generation of rats kept under tropical conditions reproduction was interfered with, but was improved in succeeding generations.

The dye rose bengal introduced by Dr. G. D.

Delprat of the University of California Medical School and Hospital for testing liver function, or rather its selective permeability according to my interpretation, is the most satisfactory agent of its class and for the purpose. The normal liver removes the dye so rapidly from the blood stream that only traces remain in the blood at the end of sixteen minutes, but the removal is greatly impaired in obstructive jaundice, catarrhal jaundice and in arspenamin icterus, and in advanced cirrhosis and acute infections of the liver in man, according to Doctors N. N. Epstein, G. D. Delprat and W. J. Kerr of the Department of Medicine, University of California, who have used the dye as a valuable aid in diagnosis and prognosis. In dogs, hepatic permeability of the dye is well known to be diminished after chloroform anesthesia; and also in circulatory disturbances of the liver, in shock and after certain drugs, especially those in the colloidal state such as agar and colloidal silver and arspenamin in therapeutic doses, which block the liver directly without other causes, as shown by Doctor De Eds and myself. The gall bladder, according to Prof. G. E. Burget of the Department of Physiology, University of Oregon Medical School, is not concerned in the regulation of bile flow.

In the surgery of large vessels a new principle has been discovered by Dr. Emile Holman, professor of surgery, in the Stanford School of Medicine. This requires that under certain circumstances ligation of the main artery to an extremity should be accompanied by ligation of the main vein in order to decrease gangrene formation.

During and following severe muscular exercise lactic acid appears in abnormal quantities in the blood, but the urine does not always show it. Doctors A. W. Hewlett, G. Barnett and H. K. Lewis of the Stanford Department of Medicine seem to have explained this discrepancy by the demonstration of a renal threshold value for lactic acid somewhat as there is for glucose; that is, urine lactic acid can only be demonstrated when there is a considerable excess above the normal. A demonstrable decrease in blood lactic acid occurs during inhalation of air enriched with oxygen, thus diminishing the possible effects of the traditional "fatigue product" in muscle.

Biochemical studies by Prof. C. L. A. Schmidt and associates of the Department of Biochemistry, University of California, indicate that the non-diffusible calcium in blood is bound to the serum proteins; that dyes unite with proteins in stoichiometric proportions thus controverting the older idea of adsorption. The same investigators devised for the first time a liquid medium for, and studied the metabolism of, the hemoflagellate *Leishmania tropica*.

A unique, and modifiable, elevated skeleton maze, permitting direct and detailed observation of the behavioristic intelligence of rats without assistance from extraneous factors, has been devised by Prof. W. R. Miles of the Department of Psychology at Stanford. It will promote greater accuracy in the objective study of various conditions, habituations,

drugs, etc., on behavior than has been heretofore possible.

In parasitology, Prof. C. A. Kofoed of the Department of Zoology, University of California, reports the discovery of *Endameba dysenteriae* in bone marrow in Ely's second type of arthritis deformans and in the lymph glands in Hodgkins' disease.

Spider poisoning, especially from the *Black Widow* in California, is more common and serious than has been generally supposed, according to clinical and experimental studies of Dr. Emil Bogen of Los Angeles. Although the bite is rarely fatal, it causes severe illness characterized by an excruciating pain spreading over the entire body, beginning most commonly in the genitalia of men accidentally bitten and becoming especially severe in the abdomen, legs and back, accompanied by nausea, vomiting, constipation and abdominal rigidity lasting twenty-four hours with complete recovery after several days. Treatment is by narcotics; and possibly by a serum which, however, remains to be developed.

Stanford University School of Medicine.

THE TREATMENT OF EMPYEMA *

By E. ERIC LARSON, M. D.
Woodland

DISCUSSION by Leo Eloesser, M. D., San Francisco;
Charles E. Phillips, M. D., Los Angeles; Ben E. Grant,
M. D., Los Angeles.

ONE of the important lessons learned during the World War was the type of operation to be done for empyema as well as the proper time for it to be employed. The old method of thoracotomy, with or without resection of a rib, disregarding pneumothorax or the time of operation, yielded a mortality of 45 per cent in fifty cases. With more conservative treatment, delayed operation and more careful study of patients, the mortality of the next fifty was lowered to 28 per cent. Further modification of treatment by the use of hypochlorite solution in early lesions lowered the mortality to 10 per cent in the next 133.¹ Several surgeons since that time have repeatedly reported mortalities ranging from 2 to 12 per cent.

The early recognition of the condition and its cause are fundamental, for upon this knowledge is based appropriate and efficient treatment, which is further dependent on a clear and definite distinction between acute and chronic empyema. In the acute infections treatment should embody principles directed toward support of the patient's poor general condition and also a prompt and efficient cure. When chronic, treatment in addition should be directed to preventing prolonged morbidity and deformity.

ACUTE EMPYEMA

Acute empyema usually results from adjacent lung inflammation. It may result from general infection or from more distant suppuration. One-half² to two-thirds of all pleural suppurations are due to pneumococcus and one-fourth to streptococcus.

* Read before the General Surgery Section of the California Medical Association, at the Fifty-fifth Annual Session, April 28 to May 1, 1926.

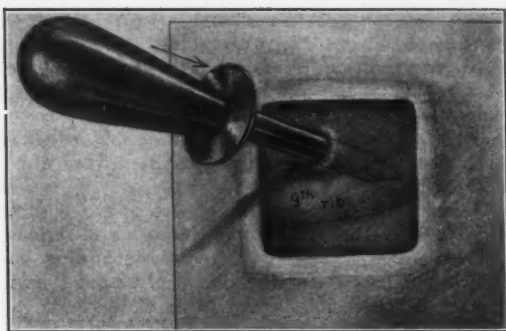


Fig. 1—Insertion of trocar between eighth and ninth ribs. Usually more advantageous points are necessary for drainage.

Typical acute empyema follows lobar pneumonia and is of pneumococcus origin. The fluid is cloudy, thick, appears quite early, is of small quantity, contains an abundance of fibrin and walls off quite readily.

The acute streptococcus empyema usually accompanies bronchopneumonia and is more severe because of the spreading lung inflammation. The pus is thinner, of large quantity, loaded with bacteria, and the tendency to encapsulation into an abscess is markedly delayed.

The first essentials in the diagnosis and treatment should include careful study of the patient, an accurate history and detailed physical findings, supported by x-ray data and finally by aspirations of pus, the character of which is ascertained by direct smear and culture. The condition of the underlying lung as well as that of the opposite side, with particular attention also to the general condition of the patient, should decide the order of procedure.

Simple drainage by needle aspiration may greatly assist an embarrassed circulation and tide the patient along for a few days, allowing the lung condition to subside and the infection to become walled off. Thus a general empyema with the increased problem of cavity obliteration is often averted. Early deaths are not alone due to absorption but rather to the collapse of the air-bearing lung tissue. Therapeutic aspiration, which gives relief, but rarely cures, can be done every twenty-four to thirty-six hours, depending on the condition of the patient. The use of chemical therapeutics can then be considered. Major³ reports 51.8 per cent cures in twenty-seven cases by the use of gentian violet. He injects 100 cc. of 1 to 1000 solution, gradually increasing the strength to 1:250 in subsequent instillations.

After trying these more simple methods without cure the closed operation, introduced by Bülow⁴ in 1891, should be done. We use the army trocar (Fig. 1), following the method of insertion perfected during the war.⁵ Under local anesthesia I try to insert an airtight tube just inside the cavity and at a level that will give gravity drainage and still eliminate the possible formation of a valve fistula by shrinkage of the cavity.

The success of the closed operation depends largely

on three factors: thorough drainage, prevention of pneumothorax, the use of Dakin's solution.

Thorough drainage maintained by constant suction is the ideal method of evacuation of the cavity, decompression of course being done gradually during the first twenty-four hours when dealing with a large collection of fluid. With this in view I have had constructed an apparatus (Fig. 2), which fulfills all expectations, but examination of the literature reveals that practically a duplicate of this apparatus was used by Van Hook⁶ twenty-five years ago. His bottle vacuum is maintained by water pump, while in my apparatus an ordinary bicycle pump is used. A mercury manometer is attached to indicate the degree of vacuum pressure which shows the efficiency of drainage and any possible leakage of air. With this apparatus I have been able to evacuate thoroughly the cavity as well as promote constant negative pressure. Irrigation of the cavity with solutions can also be done by clamping the tubes and disconnecting the apparatus. Moreover, by this method the treatment can be continued at home under the care of an efficient nurse, thus curtailing hospital expense in protracted illness. During the past year a newer contrivance, simpler and less cumbersome, has been introduced by Soresi.⁷

Prevention of pneumothorax is very important, for if it arises and persists, resection of a rib with open drainage is the method of choice. Careful insertion of the tube under local anesthesia can be

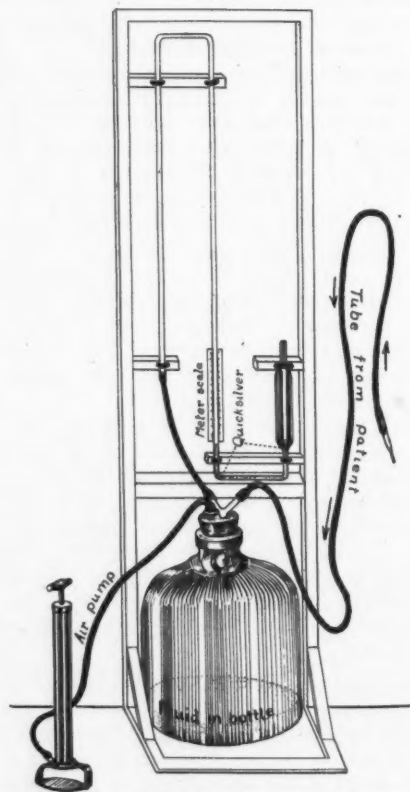


Fig. 2—Suction apparatus, which can be used at home in competent hands to promote constant and complete drainage.

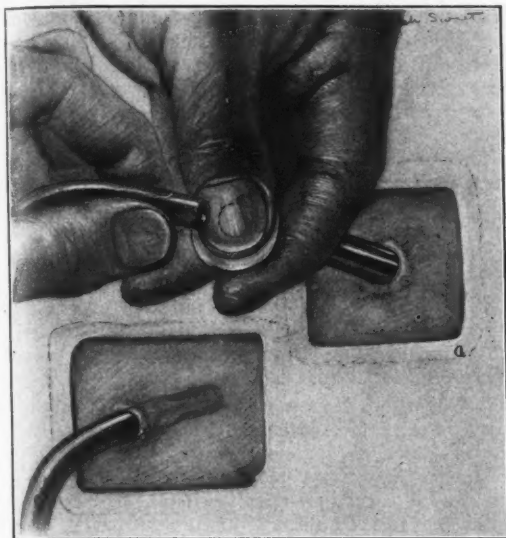


Fig. 3—(a) Trocar removed and catheter inserted through sheath into empyema cavity. (b) Sheath removed, leaving tube in place.

done so as to prevent influx of air (Fig. 3). The catheter should fit tightly into the sheath of the trocar and the tube be carefully clamped.

There are many methods of making the tube airtight within the chest wall. A large rubber dam tied tightly around the tube and glued to the skin is used by many surgeons. Some prefer to pack gauze about the tube and cover well with adhesive tape. The use of metal supports is reported successful. My best results are obtained by using colloidin and cotton packed tightly around the tube on to the skin and supported by strips of adhesive tape.

The third important point is the use of Dakin's solution. Stephens⁸ claims decided advantage from its use because it diminishes the fibrous tissue over the lung, allows the lung to expand, removes the fibrin and necrotic tissue, sterilizes the cavity and prevents sacculation and hidden cavities. The solution must be fresh, sterile and contain about one-half per cent available chlorine. The contraindications to Dakin's solution are pleural hemorrhage and pleuro-pulmonary fistulas. My experience supports Stevens's⁸ claim that the use of Dakin's solution insures a 90 per cent decrease of the cavity in about forty days.

The position of the tube is important. The usual site of insertion between the eighth and ninth ribs in the axillary line kept several patients from a rapid recovery because, as seen in Fig. 6, there extended a long sinus leading upward to a large cavity. In such patients an opening between the fifth and sixth ribs would have been more advantageous.

After thorough closed drainage has continued for several weeks it may be necessary to unroof a small remaining cavity by rib resection. Care in making the opening of sufficient size to permit coaptation of the skin and pleural surfaces will prevent too rapid closure of the wound (Fig. 5). The cavity should be explored, opening all pockets and remov-

ing the loose fibrin and necrotic tissue. If necessary a skin graft can later be used to cover the defect. Bronchial fistulas, which sometimes occur, should be given two or three months for spontaneous closure. Closure of these fistulas can be hastened by chemical irritation, suture, or the actual cautery.

CHRONIC EMPYEMA

Chronic empyema usually means an unrecognized or neglected acute suppuration, an improperly treated or badly operated acute empyema. The time that should elapse before an uncured empyema may be called chronic varies from three to twenty-four weeks. Among surgeons I agree with Hedblom⁹ and others, who fix twelve weeks as perhaps the most advisable limit.

In deciding the course to follow it is most important to ascertain the cause for chronicity. Tuberculosis, syphilis, actinomycosis, nondraining pockets, thickened visceral pleura, foreign bodies and osteomyelitis, all must be searched for. The aim should be to re-expand the lung to the chest wall rather than collapsing the thorax against the lung. Lockwood¹⁰ arbitrarily makes the rule that cavities containing over three ounces should be treated by efforts to re-expand the lung, and cavities under three ounces should be treated by unroofing the cavity.

At the Woodland Clinic during the past year I have been using lipiodol injections into the sinuses and cavities for x-ray studies in preparation for operative procedure. The suspension readily enters all pockets and traverses sinuses, producing a dense and unmistakable shadow (Figs. 6 and 7). It is non-irritating to the pleura, and in the detection of pleuro-pulmonary fistulas I believe its use has facilitated greatly in making a thorough exposé of the conditions which should be understood before decision to operate is made.

A chronic, encapsulated empyema with intact thoracic wall should not be hurriedly dealt with. Efforts at reduction of the size of the cavity should be attempted by aspiration and closed drainage. Pickhardt¹¹ recommends resection of a rib; exploration of the cavity; cleansing of the cavity with a 0.1 per cent iodoform ether solution; insertion of a

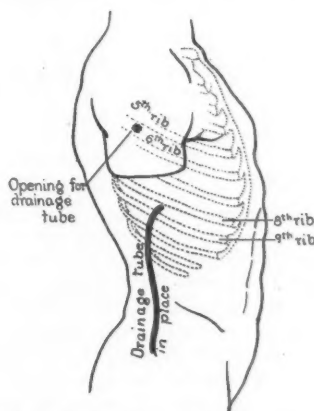


Fig. 4—Usual site for the introduction of closed drainage between eighth and ninth ribs. It is often necessary to drain between fifth and sixth ribs.

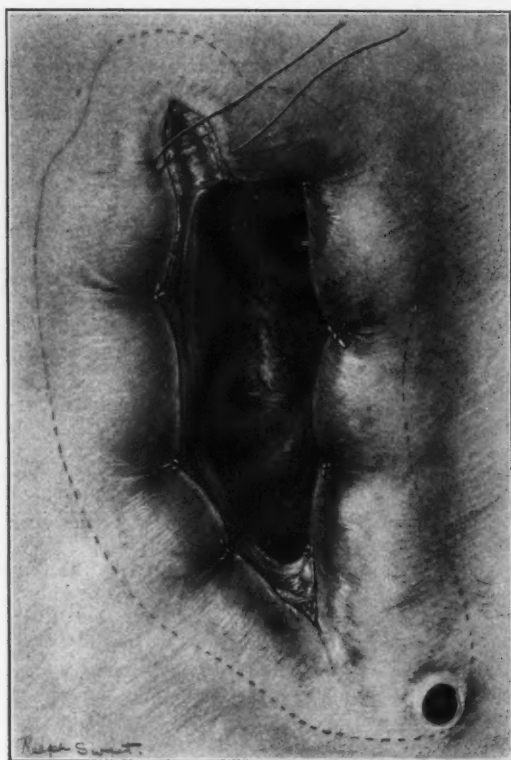


Fig. 5—After resection of rib the skin is approximated to the parietal pleura and the ends of the rib are well covered.

tube for closed drainage below and suturing of the wound in layers, the wound usually healing by primary intention.

Persistent cavities that have been efficiently drained and sterilized for several months should be treated by more radical measures. Thoracoplasties of the Wilms, Schede and Estlander types may be resorted to, but usually are not necessary. Decortication of the lung by expert surgeons, when followed by complete expansion of the collapsed portion, is one of the most satisfactory of operations.

REPORT ON 14 PATIENTS TREATED

During the past year I have treated fourteen patients with empyema at the Woodland Clinic. They were all acute types. The bacteria found were: pneumococcus 7, streptococcus 4, staphylococcus 1, colon 1, combination of proteus and streptococcus 1. There was one death, and that was the proteus-streptococcus infection in which the empyema followed operation for a lung abscess situated in the apex of the right lung. I attribute this death to bad surgical judgment in draining the abscess in a one-stage operation. At the operation I believed that the pleural surfaces were adherent, but an empyema in the right pleural cavity several days later revealed the mistake.

In the management of all patients I was careful to adhere to the principle stated earlier in this paper, that after the diagnosis is made the aim should be

treatment by simple measures such as ample and repeated aspiration until the lung condition subsides sufficiently to allow closed drainage. Closed drainage with Dakin's irrigations was instituted in every instance. Also in eleven of the fourteen patients it was necessary to resort to further operative procedure such as rib resection. There is much in the literature regarding complete cure by closed drainage, but I have been unable to prevent a small cavity due to pneumothorax caused by the leakage of air around the tube after five to seven days. I feel that the suction apparatus was a distinct advantage for these few days at least.

Bronchial fistulas occurred in three of my patients. Two closed spontaneously and chemical irritation with silver nitrate was employed to hasten closure of the third.

One patient, 74 years of age, in whom an unrecognized empyema had existed for several weeks had closed drainage, then rib resection. Because of the non-expansion of the underlying lung either a decortication or collapse operation will have to be done in about three months.

A high caloric diet, supplemented in several of my patients by one or more blood transfusions, was instituted because of their sepsis, anemia and weakness. Aside from the operative procedures necessary I consider these two measures of the utmost importance. It is also absolutely essential to get the patient out of bed as early as possible and teach him exercises for thoracic expansion and correction of deformity.

SUMMARY

Fourteen patients with acute empyema and one death, a mortality of 7.14 per cent, forms the basis of this discussion.

The diagnosis of an existing empyema, or the anticipation of this condition, is the most important factor of all.

Acute empyema should be treated by simple measures, such as repeated aspirations, closed drainage, thoracotomy later if necessary.

Chronic empyema should be treated so as to prevent morbidity and deformity. Expanding the lung to the chest wall rather than collapsing the chest wall to the lung should be emphasized.

Employment of a constant suction apparatus to facilitate cavity collapse is of great advantage.

I would emphasize the value of irrigation with Dakin's solution.

The injection of lipiodol into a cavity is a very effective method of ascertaining the complicating factors which promote chronicity.

A high caloric diet is necessary. Blood transfusions are often required. Exercises are important to facilitate lung expansion and secure minimum deformity.

Woodland Clinic.

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Fig. 6—Case No. 12509. Lipiodol injection. Long fistulous tract caused by improperly situated tube.

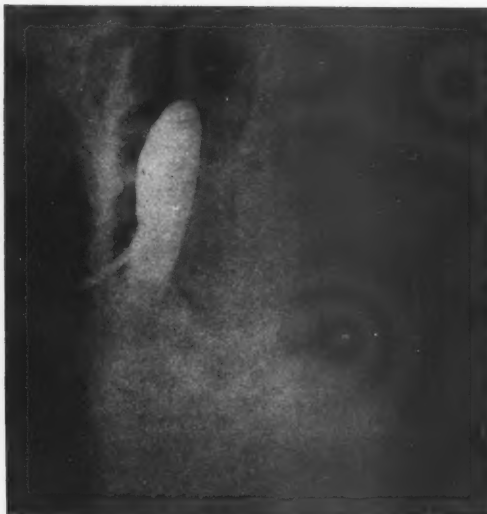


Fig. 7—Case No. 12848. Lipiodol injection. Drainage tube situated correctly.

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DISCUSSION

LEO ELOESSER, M. D. (490 Post Street, San Francisco)—It is consoling to one who has struggled with closed drainage methods to find that Doctor Larson had to supplement the closed method in eleven out of fourteen patients with rib resection. One sees that even in so well conducted a clinic as the Woodland one the trocar stab drainage is anything but easy. It is very satisfactory when it works, but often it does not. It needs constant watching, a trained personnel and skill.

I agree with Larson that exclusion of even the smallest bubble of air, not only at operation, but during the whole subsequent course of treatment, is most important and in the later stages, when the tube begins to loosen in its canal, almost impossible to achieve. Once air enters the chest it cannot be gotten out, and the pyopneumothorax will not heal except after rib resection.

Other unavoidable mishaps—a bit of fibrin stopping the tube, kinks, or the patient's lying on it—make a vacuum drain useless, for we must remember that if a drain

doesn't drain it plugs, and plugging a chest with a foreign body is bad. Rib resection is usually easier to handle.

In answering the question whether and when to drain an empyema: If the dyspnea is more than can be accounted for by the quantity of exudate, wait. The dyspnea is probably then not the result of the empyema, but of the underlying pneumonia and the chest is not ready for drainage.

Colonel Keller's method of treating chronic empyema gives surprisingly good results. The decortication operations are difficult and often disappointing. Not every lung should be brought out to the chest wall—the tubercular ones of course not. One can recognize tubercular empyema clinically by the collapse of the lung and its tendency to stay collapsed. In other empyemas, pneumococcal, streptococcal, staphylococcal, the lung comes out toward the chest wall all by itself. It may not quite obliterate the pleural cavity if there is some chronic focus of supuration, a walled-off abscess or a foreign body in it, but even so it shows a great tendency to.

✱

CHARLES E. PHILLIPS, M. D. (523 West Sixth Street, Los Angeles)—There is no problem in surgery that calls for the exercise of keener judgment or more prompt action than that required in the treatment of acute empyema.

Epidemics of infectious and contagious diseases vary extremely in degrees of virulence. One characteristic, more or less common to all, is the lessened severity as the epidemic subsides. With the faith of a Crusader, in his remedies, the physician is very prone to attribute the lessened mortality rate to his latest treatment.

Lilienthal in his recent work on thoracic surgery (Vol. I, p. 163), seems to follow the same line of reasoning. He notes the results in three series of cases in army camps, as follows:

1. First series, early operation, eighty-five cases, with a mortality of 61.2 per cent (October 20, 1927, to January 12, 1918).

2. Second series, early aspiration and later operation, ninety-six cases; mortality 15.6 per cent (January 12, 1918, to August 10, 1918).

3. Third series, early aspiration and late operation, ninety-four cases; mortality 9.5 per cent (October 18, 1918, to February 14, 1919).

He apparently attributes the improvement in the mortality rate to the treatment employed. A fair comparison might be drawn between the influenzal epidemic of 1918 and that of the succeeding years. The high mortality

in the former was not lowered in the subsequent years so much by the treatment employed as it was by the lessened virulence of the infection.

Treatment—We choose a line of treatment on the following:

1. Rationale. It should be logical.
2. Simplicity. The simpler the method the less chance of error.
3. Results. The acid test of all should be the results accomplished.

Considering the problem under these three heads, we arrive at the following: Normally the negative pressure is slight. Opening the chest in a normal individual gives rise to few symptoms outside of an increase in the respiratory rate. In the patients suffering from a pneumonitis with the bulk of the lung greatly increased by swelling, and by the products of inflammation in addition to the purulent accumulation within the pleural cavity, the negative pressure within the chest becomes a positive one. Opening such a chest should give rise to almost no shock. It puts the affected lung to rest. It checks absorption. It can always be performed quickly, easily and painlessly by the employment of a local or regional anesthetic.

We come to the comparison of results. I would like to quote our results obtained on the Canal Zone during the construction of the canal:

1910—13 cases with 1 death.

1911—13 cases with 1 death.

1912—15 cases with 2 deaths.

1913—14 cases with 2 deaths.

A total of fifty-five cases with six deaths, as published in the Annual Reports of the Isthmian Canal Commission. When we take into consideration that many of these were suffering from intercurrent diseases, malaria, dysentery, etc., and practically all with varying grades of anemia; they were treated in wards where careful nursing and individual care was practically impossible; and all were treated by the open method and without the advantage of Dakin's solution, these results compare quite favorably with the best that can be shown by the closed method of treatment.

My conclusions are:

1. The mortality rate varies directly as the virulence of the infection with either method of treatment.
2. Operative interference must not tax the strength of the patient.
3. Carrel Dakin treatment offers the greatest advance in the treatment of a suppurative pleuritis.
4. The relief of pressure from purulent accumulations and rest to the sick lung is of greatest importance.
5. The early relief of pressure favors rapid expansion and complete recovery.

Closed method of treatment is indicated: (a) In desperately ill cases with small accumulations of fluid. (b) In neglected cases with great accumulation of fluid. (c) Where the pleuritis is due to, or complicated by, tuberculosis.

The treatment of choice is the early open thoracostomy and Dakin treatment of the cavity.

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BEN E. GRANT, M.D. (1012 Brockman Building, Los Angeles)—The variance of mortality statistics usually ascribed to this or that method of treatment of empyema is no doubt due to the virulence of the various infecting organisms. This will also explain the heated discussions for and against early tapping and the merits of thoracentesis and rib resection. The mortality lists of well-equipped hospitals usually vary according to the stage and type of infection with which each patient is afflicted. The deciding factor in determining the procedure should be the condition of the patient.

The margin of safety in rib resection in the early acute cases is very narrow, because of accompanying shocks. Careful aspiration with the trocar seems the best method of procedure. In addition, at this time autogenous vac-

cine might be used to build up more resistance and further prepare the patient for further investigation.

In the milder types with less virulence repeated tapings may be all that is required; however, later, if pus persists, a thoracotomy is the best line of procedure.

The resulting dangers from pneumothorax are much more acute in the early stage, and for this reason watchful waiting, with repeated aspirations, is, to my mind, the safest way to care for these cases.

Irrigations with Dakin's solution after surgery can be considered where the pus is very thick and drainage blocked. It is also the best stimulant for healing, although some care should be exercised to avoid any irritation to the inflamed surfaces.

Results depend upon the existing complications and individual resistance.

Doctor Larson is to be congratulated on the low mortality rate of this group. It certainly shows what can be done in a well-organized clinic. His percentage of final thoracotomies is in harmony with reports from other well-recognized clinics.

CERVICITIS, WITH SPECIAL REFERENCE TO ITS TREATMENT

By WILLIAM E. HUNTER, M. D.
Salt Lake City, Utah

DISCUSSION by Fred R. Fairchild, M. D., Woodland, California; J. U. Giesy, M. D., Salt Lake City, Utah.

CERVICITIS is often spoken of as endocervicitis, erosion, pseudoerosion, ectropion, eversion, and sometimes ulceration of the cervix. Such terms are misleading, for they give the impression that the inflammatory lesion is limited to the lining of the cervix, particularly the exposed cervical mucosa. This is incorrect, for the pathological changes penetrate deeply into the musculo-fibrous tissue of the cervix and outward onto the squamous epithelium that covers the exposed cervix. In severe cases the inflammatory reaction extends into the parametrium and upward by lymphatic extension upon the tubes and ovaries. The lesion is not one of erosion or ulceration but one of cell proliferation. The eversion is the result of cell growth with scar-tissue formation beneath which causes the cervical endothelium to roll out or evert.

HOW THE CAUSES ACT ON CERVICAL TISSUE

Cervicitis is always the result of bacterial invasion of the racemose glands of the cervix following trauma from childbirth or by the invasion of the gonococcus which has the power of burying itself between the cells of normal mucous tissue. In a few patients it follows a developmental defect which exposes the cervical glandular tissue to the acid secretion of the vagina (congenital pseudoerosion). Normally the upper vagina and cervix are free from pathogenic organisms. The acid secretions and the pavement epithelium of the vagina present an effective barrier against bacterial extension upward. Curtis has shown that the body of the uterus is practically immune against bacterial invasion, but that the mucus-secreting epithelium of the cervix with its numerous glands is susceptible to infection and will harbor germs for years. Following injury to the cervix, the columnar epithelium pushes outward and replaces the squamous epithelium beyond the external os. This new epithelium has the power



Surgical removal of the infected area of the cervix

of forming new glands on the exposed surface. These glands soon become infected and as time goes on the infection extends upward into the contiguous glands of the cervical canal. Hyperplasia of the columnar epithelium with new gland formation gives rise to the edematous red area seen by visual examination. The round-cell infiltration and engorgement of the blood vessels and lymph spaces give rise to the fibrosis and hypertrophy in the body of the cervix. The end result is constant cell proliferation and chronic inflammation on the exposed surface, and hypertrophy and fibrosis in the body of the cervix.

Sturmsdorf and Curtis have shown that the extent of the lesion depends upon the virulence of the infecting organism, and not upon the extent of the laceration. The inflammatory process is always more active in the torn lip than in the scar. It has also been demonstrated that cancer of the cervix never begins at the site of laceration, but in the irritated area on the exposed lip.

Cervical disease most often asserts itself clinically as leucorrhea, the most common complaint of women in the childbearing period. Fully 75 per cent of parous and 25 per cent of all nonparous women suffer to some extent. The extension of inflammation by the lymphatics into the parametrium is often the cause of premenstrual and comenstrual pain, dyspareunia, and backache. The absorption of toxic substances by the occlusion of the infected glands frequently causes anemia, general debility, and genital neurosis. There is no doubt but that the constant irritation and stimulation to cell proliferation predisposes to cancer formation. Bonny has never failed to find evidence of a pre-existing erosion in all early cancers of the cervix. At the same time it

is well to bear in mind that approximately 25 per cent of all cancer is in the cervix. In many women the stringy, sticky mucus discharge is the cause of delayed impregnation and sterility. Unfortunately this condition is not self-limited. These patients form a good part of the "office habitues" who apply for treatment week after week and flit from doctor to doctor. The range of treatment runs the gamut from topical application to extirpation of the cervix and even hysterectomy. The divers methods of treatment are sufficient proof that the treatment of the disease is not universally successful.

THERAPEUTIC MEASURES

Since the disease is an infective process limited to the glands of the cervix it is reasonable to assume that the eradication of the foci of the infection will successfully cure the patient. This is exactly what happens. In mild cases topical applications of silver nitrate, tincture of iodine, zinc chloride, phenol, or potassium hydroxide will cure. If the chemical is strong enough to destroy all the infected glands from the internal os to the healthy mucosa it will cure in the average severe infections. In mild infections passive hyperemia may empty the glands and stimulate the healing process, but in the presence of active inflammation it is likely to aggravate the condition. Radium if used in sufficient dosage to destroy the glands may be efficient. Unfortunately it is impossible to prevent the rays from injuring the muscular tissue of the cervix, so that there is always danger of cicatricial contraction and stenosis. There is also danger of producing an acrid discharge which may irritate the vagina and vulva. In my hands radium has never been satisfactory in the treatment of leucorrhea. Burns claims good results in the

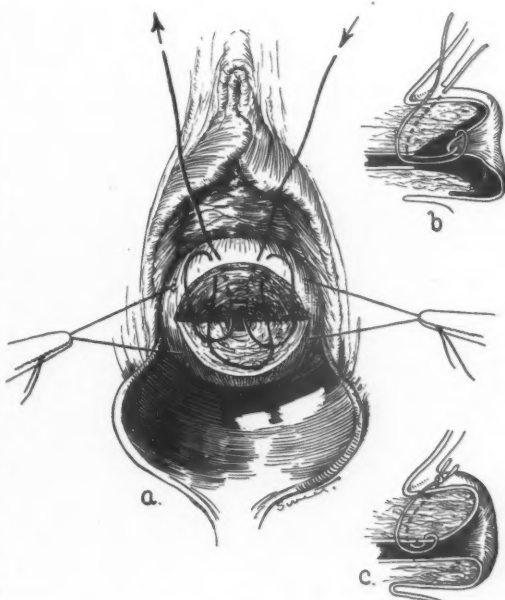


Diagram illustrating method of covering denuded area with mucous membrane

treatment of leucorrhea by ionization, but says this does not cure erosion. Vaccines are worthless.

Like all other methods, the success of operation depends upon the removal of the foci. Curetage does not reach deep enough. Tracheloplasty is aimed at correcting the anatomical defect instead of removing the infection. Amputation of the cervix, if high enough, is undoubtedly successful but mutilating. Sturmsdorf's removal of the cervical mucosa is the least radical procedure which acts thoroughly and effectively. The disadvantage of the latter operation is that it requires a certain amount of surgical skill and hospitalization. In summing up the Hopkin's series, Magid found that trachelorrhaphy did not relieve endocervicitis, while curative amputation was followed in four-fifths of the patients by sterility; one-half of those who became pregnant aborted and the remainder suffered dystocia. He claims that Sturmsdorf's operation obviates all this.

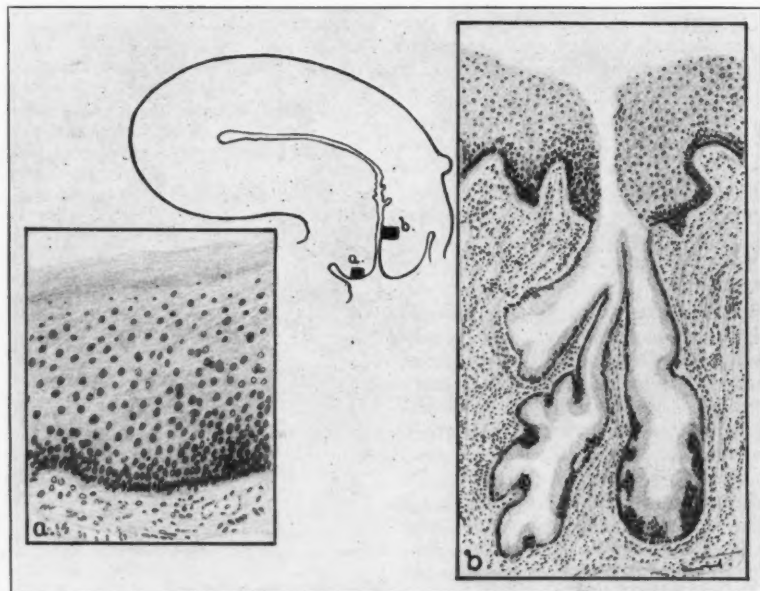
THE USE OF THE ACTUAL CAUTERY

In recent years excellent results have been obtained by the use of actual cautery in the treatment of cervical disease. Hunner, who had noticed the effect of cautery in the treatment of carcinoma of the cervix, was the first to suggest its use in the treatment of leucorrhea. In 1906 he reported his results at Kelley's Clinic in Baltimore. His method was to pass the hot Paquelin blade over the hypertrophied mucosa causing a temporary necrosis. In 1911 Dickinson of New York suggested the use of the electric nasal tip in the place of the heavy Paquelin blade. His method is to scarify the cervical canal longitudinally in strips approximately one-half inch apart and repeat the process every ten days or two weeks until all the diseased tissue has disappeared.

For the past eighteen months I have been using

the electric cautery almost exclusively in the treatment of cervicitis. It is easy to apply and effective. It requires no elaborate apparatus and can be done in the office, usually without anesthesia. My apparatus consists of a small rheostat, a long and a short cautery tip, and a handle to make and break the circuit. The cervix is held by a small hook, and the red-hot tip is applied to the diseased area. I do not hesitate to burn deep enough to destroy all the infected gland tissue. I am also careful not to burn deeper than necessary. I would rather repeat the process than destroy the musculature of the cervix or light up an old parametritis. I start at the internal os and burn lightly increasing the amount of cautery as I approach the more deeply infected area on the lip. I aim to eradicate all of the infected tissue at one sitting. In mild infections I do not give an anesthetic, for the cervix is practically insensible to heat except near the internal os. I find that the pain during cauterization apparently comes from the heat radiating to the musculature which causes the muscle fibers to contract and gives rise to a cramp-like sensation. Near the internal os the cervix is peculiarly sensitive, and many patients will complain of pain as soon as that region is touched. With the cautery tip in the cervix the heat is applied until the patient feels the uterus contract (cramp) and then turned off. In nervous patients 10 per cent cocaine applied high in the cervical canal will lessen the acute pain. In apprehensive patients an anesthetic may be required.

Following the cauterization the patient is advised to remain in bed for at least one day. She is told that the vaginal discharge will be greatly increased and that she will be obliged to wear a pad for ten days or two weeks. A few patients "spot" on



a. Section from vaginal surface showing squamous epithelium.
b. Section from endocervix showing glandular structure.

the fourth or fifth day, but the bleeding is never alarming.

At the end of one week the cervical canal has a dark gray necrotic appearance. At the end of two weeks the necrotic material has begun to disappear and healthy granulations can be seen. At the end of six weeks most of the discharge has stopped and a thin smooth lining has covered the burned area. In three months this is replaced with a healthy epithelium and much of the induration in the lips will have disappeared.

Cautery is not entirely free from danger, for there is always the possibility of spreading a virulent infection into the parametrium. For this reason I prefer the surgical removal of the infected mucosa in the suspicious cases. In badly lacerated cervixes I see no need for a plastic operation except in those women who desire children and are likely to abort because of the laceration. If the inflammatory process is removed the danger of cancer is removed. If the patient is not told she has an ugly-looking cervix she will never know the difference. So far I have never had a patient suffer from cervical stenosis which has been suggested as a contraindication to cautery. I have delivered a few patients following extensive cauterization and was not aware of any dystocia.

1000 Deseret Bank Building.

SUMMARY

Cervical disease is an infective process limited to the cervix and characterized by hyperplasia of the endocervix, round-cell infiltration, and fibrosis of the underlying tissue.

It is the inciting cause of leucorrhea and cancer of the cervix and frequently the cause of sterility.

The treatment is the eradication of the infective lesion.

The cautery may be easily applied in the office, and is effective in producing a cure.

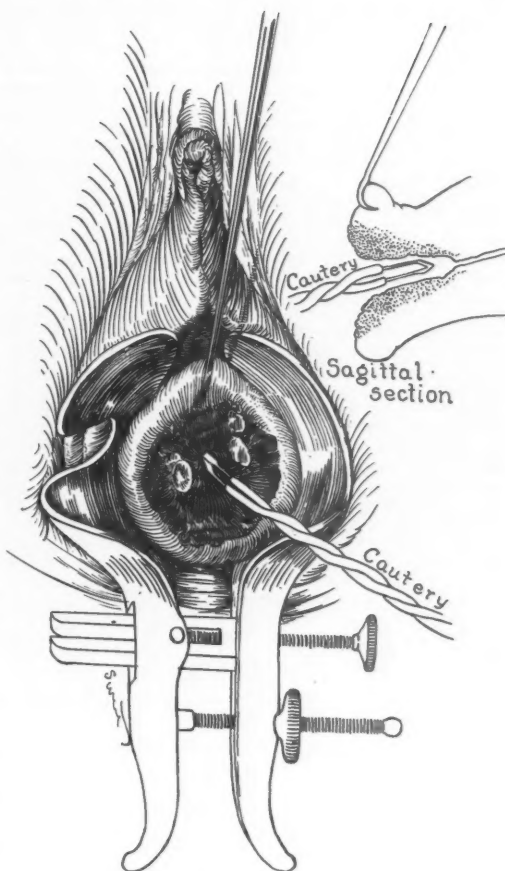
In badly infected cervixes Sturmsdorf's conical removal of the cervical mucosa is preferable.

DISCUSSION

FRED R. FAIRCHILD, M. D. (Woodland)—Doctor Hunter in his very valuable paper suggests in his opening paragraph the reason why the treatment of inflammatory lesions of the cervix uteri is unsatisfactory in so high a percentage of the cases. These lesions are thought of as being limited to the cervix. His contention that the pathological changes penetrate into the musculo-fibrous tissue and even into the parametrium is correct. Any treatment therefore directed toward merely the eradication of the primary focus will result only in failure, unless the treatment also carries with it attention to the changes which have gone beyond this source. The emphasis on this point alone would justify the doctor's paper.

In the hands of the average physician cervicitis or endocervicitis is that and nothing more, and treatment is the same for each patient so afflicted. As a matter of fact an endocervicitis alone may exist in one patient where chronic metritis may have been added to the original lesion in another, and certainly it is not logical in the latter to expect the same results that will obtain from the simple treatment of the primary lesion.

An accurate diagnosis, then, is the first necessity and



Cauterization of the cervix

the most commonly overlooked essential in the intelligent handling of women so afflicted.

Hunter's method of using the electric cautery is logical. In the hands of most of us the application of heat to the cervix either superficially or by puncture, according to the nature of the lesion, has perhaps given better results than we have been able to obtain in any other way. However, in an unfortunately high percentage of cases even this treatment has not been satisfactory. The personal equation probably enters in here. The method of application being tempered by experience would probably give us results more uniformly successful.

I suspect that the doctor by his cautery will secure results more gratifying to him than those of us with lesser experience will be able to obtain.

There are those patients in whom we have not been able to secure satisfactory results by any method less radical than complete hysterectomy. It always has seemed to me that there must be something wrong when so radical a procedure would seem to be necessary for the correction of an ailment so comparatively trivial.

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J. U. GIESY, M. D. (Felt Building, Salt Lake City, Utah)—Hunter has very completely and concisely covered the field he has undertaken to review. As to the successful treatment of these patients, any physician practicing gynecology knows the past history of obstinacy attending their care. In regard to the destruction of the infected tissue, and all these cases are infectious, nothing

is better than heat. Heat is the greatest disinfectant of infected tissues known. In the Wisconsin Medical School hospital, destruction of the infected mucosa and submucosa by heat has been practiced for several years with brilliant results. I might mention a somewhat different technique to that of Hunter merely to add a second availability to the practitioners who do not have an apparatus such as he describes, but are perhaps equipped with a good high frequency or so-called "diathermy" apparatus. All they need do is make a hook up for a surgical diathermy—that is, use a large distributing electrode on the abdomen, and a small needle or probe-pointed electrode for the active work, with a foot switch interrupter such as is furnished with all these machines. Set the machine for about a thousand milliamperes ground and you are ready for work. Insert the active tip and step on the switch, cauterizing or coagulating the canal in parallel strips from the region of the internal os to the limits of the outer erosion. Pain is not great. If the patient is nervous, one may insert a strip of gauze soaked in 5 per cent procaine, novocaine, or similar anesthetic for a few moments before the actual work is attempted. Results by this method and after appearance of tissues and healing time are about the same as those under the technique Hunter describes. I am using this method I have just mentioned, and have found it successful. Hunter's point on the incidence of cancer following the congestive and irritative effects of chronic infections of these old cervixes is very timely, and I can only agree with him in his belief that it is the disturbed metabolism resulting, rather than any effects of former direct trauma, which brings about the malignant degeneration in the end. It is a pleasure to discuss so concise and, at the same time, comprehensive a paper.

BACK PAIN OF UROLOGIC ORIGIN*

By ADOLPH A. KUTZMANN, M. D.
Los Angeles

DISCUSSION by Robert V. Day, M. D., Los Angeles;
Frank Hinman, M. D., San Francisco; A. Gottlieb, M. D.,
Los Angeles; L. P. Player, M. D., San Francisco.

BACKACHE, acute or chronic, is a very comprehensive and important symptom which daily demands attention. Modern medicine asks of the physician that he have a good working knowledge concerning it because of the multiplicity of underlying causes. It is the chronic backache which may offer the greatest difficulties in its elucidation. It is a common complaint with which the patient may contend for some time before seeking relief. The physician called upon to treat such patients should be armed with a fair understanding of the many possible causes. It is for that reason that I wish to recall the rôle which the genitourinary tract may play, particularly in the aches and pains of the lower half of the back—the lumbar, sacrolumbar and sacral regions.

Lynch, in 608 gynecologic cases found 48 per cent with sacral and sacrolumbar backache which he attributed chiefly to pelvic congestion; another 17 per cent plus were due to orthopedic conditions.

Back pain, caused primarily by urologic conditions, may well be grouped into four types: localizing, radiating, referred, and metastatic.

Localized or visceral pain is confined to the region of origin. It is in this type that we find the true kidney pain or nephralgia which may be caused

by acute or chronic tension upon the kidney capsule or inflammatory changes in the adjacent tissues. The usual kidney pain is of an intermittent or continual dull character, mild or severe, while at times it may be an ache or approach a dragging sensation. It is located particularly in the flank, usually at the level of the first to the third lumbar vertebrae. What is usually termed a renal pain is in most instances a renal pelvic pain, and if the rare instances of torsion of the pedicle be excluded the colicky renal pain should always be considered with ureteral colic. The colicky type of pain occurs more rarely in the kidney proper, and it should be remembered that such pains are associated chiefly with the hollow viscera. A characteristic radiation does not usually accompany a true nephralgia, since there is no path of transmission as in the case of the ureter. Notable exceptions have been brought forth in recent years in cases of reno-renal reflex where the pain is referred to the opposite kidney. Such referred pains have been explained as coming from the diseased kidney through the celiac plexus or from a compensatory hypertrophy of the normal kidney. All diseases occurring within the kidney usually give rise to the same type of pain or what may be termed a "nephralgia."

Acute paroxysmal pains may occasionally accompany the nonsuppurative inflammatory lesions of the kidney. Renal pains in themselves are generally less marked except in inflammatory lesions where they can become very severe. These are due to a pericapsular inflammation or damming back of the urine into the renal parenchyma with acute congestion and consequent increase in the capsular tension. It is therefore advisable to be cautious in diagnosing a calculus when there is a colicky type of pain in the kidney region in an acute pyelonephritis. In contrast to a lumbago, the nephralgia may not be influenced by stooping, while walking about, severe exercise and pressure may increase it as in the case of a lumbago.

Some of the conditions to be considered as causing a dull nonradiating nephralgia are hydronephrosis and pyonephrosis, pyelonephritis, renal neoplasm, movable kidney with traction on the pedicle, renal calculus; renal tuberculosis, renal infarction; renal congestion; renal sclerosis, perirenal inflammation and occasionally psoas abscess. In some of the given instances the pain may come late in the disease when the pathological process has involved the pelvis and ureter, as in tuberculosis. While psoas abscess is not a renal lesion it will give a backache and may at first simulate a perinephritic abscess. There is also a dull kidney pain, but in addition there are pain in the corresponding hip and retraction of the thigh. True colicky kidney pains may be caused by renal calculus and acute pyelonephritis.

The next back pain to be considered is the radiating type. The pains are caused by the alternate distention and muscular spasm along the ureter and kidney pelvis. The pain is of the same type as that occurring in the biliary system with the kidney pelvis analogous to the gall bladder and the ureter to the common duct. The characteristics which distinguish this type of pain from a true kidney pain or nephralgia are the marked tendency to spasmodic

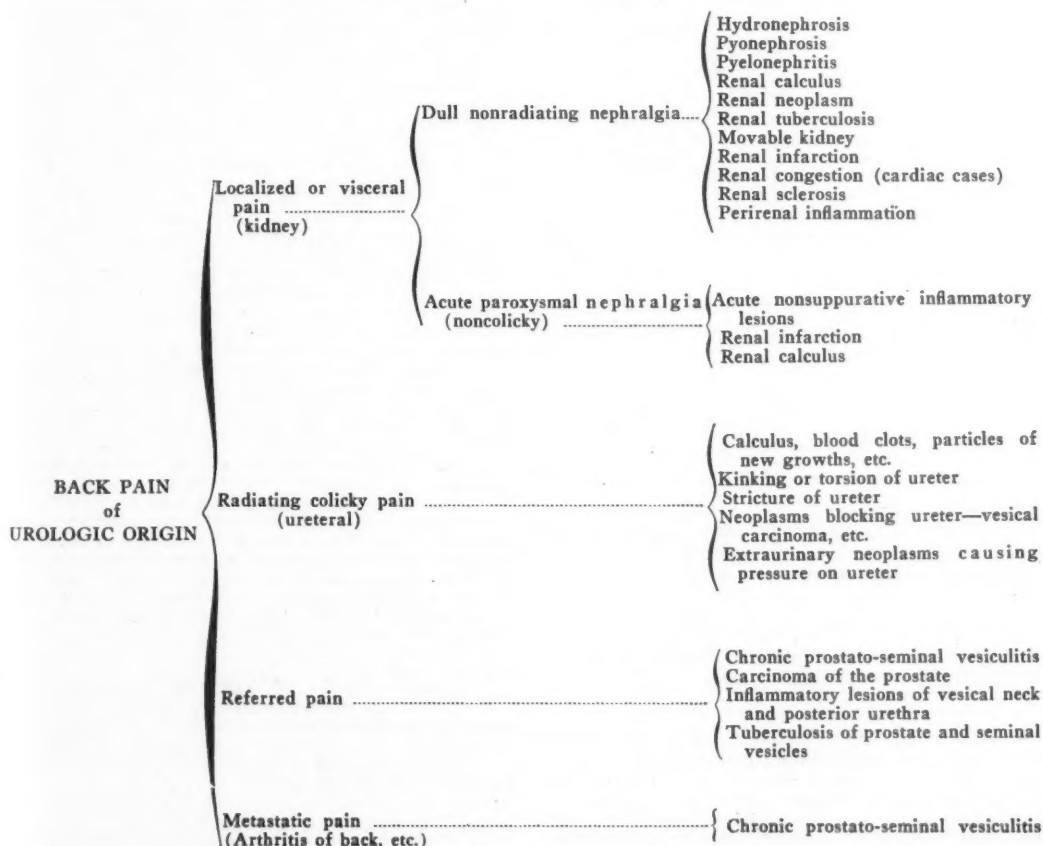
*Read before the Southern California Medical Association at Los Angeles, November 5, 1926.

and colicky attacks and radiation. Dietl's crisis or ureteral colic is well known, beginning up in the lumbar region and radiating downward and anteriorly into the groin and genitalia and even occasionally as far as the knee. The chief cause is that of sudden urinary obstruction with distention of the ureter and kidney pelvis. Such colics on the right may often be confusing with a gall-bladder lesion or acute appendicitis. Especially is this true if there be a tendency for the ureteral pain to radiate upward into the lumbar region. Sometimes these pains occur first in the region of the gall bladder and along the right costal margin. Occasionally they have their site more deeply in the ileocecal region or, if left-sided, just above the left inguinal ligament. In this connection it is well to remember splenitis, sigmoiditis, and diverticulitis.

The important causes of ureteral colic are: (1) calculi, blood clots, crystals and particles of a new growth; (2) kinking or torsion of the ureter; (3) stricture of the ureter; (4) new growths invading and obstructing the ureter, as carcinoma of the bladder and uterine carcinoma; (5) new growths outside the urinary tract and causing pressure on the ureter. A dull pain along the course of the ureter is usually due to a ureteritis, secondary to an existing renal infection above or an ureteral stricture.

It is under the category of referred pain that I

will discuss the urologic causes of low backache in the sacral and sacrolumbar regions. Referred pains ordinarily have no localizing or radiating character from the point of origin or disease, but are felt at a distance in various areas. Exceptions have been noted where there has been radiation down the course of the sciatic nerve. The pain is usually of the dull dragging and aching type, intermittent or continuous. The most frequent underlying cause is an infection of the prostate gland and seminal vesicles. According to Head, these organs are innervated from the tenth, eleventh, twelfth dorsal and fifth lumbar and the first, second, and third sacral segments, hence the referring of the pain to the back. Experience has shown us that injection of the seminal vesicles either by catheterizing the ejaculatory ducts or by vasotomy has reproduced pain in the sacral and sacrolumbar regions in some patients. Young, many years ago, studying 358 cases of chronic prostatitis, called attention to pain in the back simulating so-called lumbago, sacroiliac disease and even renal colic. Caulk and Greditzer, analyzing 300 cases of prostatitis and seminal vesiculitis, found 67 per cent with referred pains or aches in the back, legs and hips, and even down the sciatic nerve. Player reporting 500 cases, noted that in 60 per cent pain in the lower back was an outstanding symptom; in 100 of these taken at random 80 per cent had a prostatitis and seminal vesiculitis. He



further noted that this type of backache was most common in the third and fourth decades.

Aside from a chronic prostatitis and seminal vesiculitis, tuberculosis of these same structures may on rare occasions cause a low backache. Young has noted pain the back (sacral, lumbar and gluteal) and pain referred along the sciatic nerve as an early symptom in carcinoma of the prostate. Occasionally inflammatory lesions of the posterior urethra and vesical neck may also be factors.

The final back pain to be discussed is the metastatic type. There is pain due to a condition such as neuralgia, neuritis, synovitis or arthritis, secondary to urologic disease. They may be the result of metastatic irritation from a focal lesion in the genitourinary tract. The greatest urologic focal infection is a prostatic-vesicular infection. Player noted that orthopedic surgeons found in backache associated with prostatic-vesicular infection on an average of 25 per cent of cases showing x-ray lesions of the pelvic joints. Therefore the significance of this is not to be underestimated when other foci as the tonsils and teeth are being considered.

From this it will be seen that the physician must seriously consider the entire genitourinary tract in studying back pain, especially those uncertain dull backaches which superficially appear without any apparent relationship. There may be times when it is necessary to call in the urologist for a further detailed technical study. Nevertheless there are procedures of which any physician can avail himself to arrive at a tentative decision as to whether the backache may be of urologic, gynecologic, orthopedic, etc., origin. A backache may be simple or, on the other hand, complex. It is upon the evidence of a careful history, general physical examination, including the prostate and seminal vesicles, x-ray examination of the entire urinary tract, careful microscopic examination of the urine and a kidney function test (phenolsulphonephthalein) that he may base his early judgment and determine the need for further study. This information has been designated by Hinman as presumptive or general evidence in contrast to the positive or urologic evidence which must be later gotten to arrive at a definite diagnosis.

1052 West Sixth Street.

SUMMARY

Back pain is a very comprehensive and important symptom, demanding very careful study.

The genitourinary tract plays a big rôle in the etiology of back pain.

Back pain of urologic origin may be grouped into four types: (a) localized or visceral pain; (b) radiating colicky pain; (c) referred pain; (d) metastatic.

The physician should acquire certain preliminary or presumptive evidence before resorting to further expert urologic procedure.

DISCUSSION

ROBERT V. DAY, M.D. (Detwiler Building, Los Angeles)—I had the privilege of opening the discussion on Doctor Kutzmann's paper when he read it before the Southern California Medical Association.

Having studied it carefully and critically I am very much impressed with the common-sense manner and thor-

oughness with which he has handled this subject. I find little to add and nothing to disagree with, and there is only one of his points I wish to elucidate a bit, namely, metastatic pain when of prostatic-vesicular origin.

An infected seminal vesicle is not infrequently the source of bacteria producing arthritis. On the other hand, the prostate is very rarely the focus in metastatic infections, common belief to the contrary notwithstanding. This is for the reason that the prostatic ducts and lobules as a rule drain very well except in very acute prostatitis while, because of the anatomical conformation of the vesicles, drainage is quite apt to be poor. It may be stated that when seminal vesiculitis is present there is practically always an associated prostatitis; the reverse is not always true, and when prostatitis only is present there is almost never a metastatic infection unless it is hyperacute. In practice, however, it is commonly very difficult to separate the prostatic juice from the contents of the seminal vesicles; hence seminal vesiculitis is often very difficult to diagnose. But the prostate is so very frequently blamed without justification simply because the prostatic juice contains numerous pus cells and the real focus has not been found. The point of it all is, that one should be very sure that the urogenital tract is the source of the bacteria before ceasing to search elsewhere for a possible focus.

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FRANK HINMAN, M.D. (384 Post Street, San Francisco)—Pain is the commonest clinical symptom calling for relief on the part of the patient, and Doctor Kutzmann has very well emphasized the marked variability in the character of pain due to kidney and ureteral lesions. It is well also to remember that pain is not always present in these lesions. Many cases of both kidney and ureteral stone have never had pain or colic of any kind, and this holds true for all other lesions of the kidney. Another important thing to keep in mind is that there is no absolutely pathognomonic pain of any intra-abdominal disease. Some, of course, are more characteristic, but the typical pain of appendicitis may be simulated by ureteral stone and vice versa, gall-bladder pain may be reproduced by a kidney stone and vice versa. So that the importance clinically of pain is as an indication of the need of more study and more definite findings. The chief characteristics of kidney and ureteral pain have been very well summarized. It is often a help to keep in mind that renal pain is dual in character, due to the fact that the capsule of the kidney and the pelvis have separate innervations. The renal capsule and perirenal tissue possess sensory nerve terminals of cerebrospinal origin. The pelvis and ureter have sympathetic fibers only. The renal parenchyma is insensitive and may be cut, irritated or stimulated in any way with no sensory response so long as the pelvis or ureteral or capsular tissues are not implicated. Tension by pulling or stretching the pelvis and ureter apparently is the chief cause of pain. But in the pelvis or ureter other stimuli than stretching may give rise to pain, although most any uretero-pelvic cause may have a secondary effect on the capsule. The intensity of the pain seems definitely proportional to the acuteness of pressure or tension, and this is the probable explanation of the many instances of marked renal pathology without pain, the stretching or irritation having come on so gradually as to have caused no nerve stimulation. One helpful clinical fact in regard to ureteral pain is the fact that when referred to the testicle from upper ureteral cause, which is so frequent in this type of pain, the tunics of the testicle alone are sensitive, whereas in referred pains in the testicle from lower ureteral lesions the skin of the scrotum may also be sensitive. In lower ureteral lesions also the spinal segments supplying the bladder, penis, and scrotum are often also implicated in referred pain.

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A. GOTTLIEB, M.D. (607 South Hill Street, Los Angeles)—The urological viewpoint of backache has been splendidly elucidated in the paper of Doctor Kutzmann. Of interest to the orthopedist is the fourth or metastatic type of backache which is not sufficiently emphasized by the author and the discussants.

Gonorrheal and other infections in the pelvic joints, viz., the lumbosacral, low-vertebral and sacroiliac, and in the connective tissues surrounding these joints are not

uncommon causes for backpain. The bacteria and toxins in the prostate and seminal vesicles may free themselves from their places of hiding, enter the blood stream and lodge in the terminal arteries of the joints or in the capillaries of the muscles, fasciae and joint capsules. These connective tissues become the seat of inflammatory hyperplasia with exudation and proliferation of the fibrous tissue elements. If the foci of infection are discovered and eradicated early the local inflammation about these joints undergoes resolution even without the aid of therapy to the back; if, however, the urological focus is neglected and becomes chronic the inflammatory exudate organizes, leads to the formation of adhesions and, later, to contracture of the connective tissue. Stiffness and pain on motion of the lower back is the result of this pathological process. Besides "fibrositis" (as this process may best be termed) of the soft tissue of the small of the back, a contributory cause of backache is the faulty posture which patients with inflamed pelvic organs assume in standing and walking. Muscle strain is the consequence and backache, the complaint. On the other hand, flat feet and faulty posture may have preceded the urological ailments; the backache of the former causes becomes aggravated through the addition of the latter ones.

L. P. PLAYER, M. D. (384 Post Street, San Francisco)—Kutzmann has made a very clear and concise statement of the case, and his classification of the causes of backache should be of some assistance to the general practitioner in his diagnostic efforts.

Back pain due to causes mentioned under the first and second classifications present problems in differential diagnosis that require exhaustive study; however, in proportion to the total number of cases these form a small percentage.

It has been my experience that the largest number of cases fall into the metastatic group with other focal infections.

DOCTOR KUTZMANN (closing)—It was not the purpose and scope of this paper to emphasize any particular cause of backache, but rather the many that may enter from the urological point of view. I have tried merely to bring out the possibilities that can be concerned as etiological factors, so that such general diagnoses as "lumbago," etc., will not be made. The emphasizing and enhancing of the various factors by the discussants is therefore appreciated. The urogenital tract in many cases is a factor in the causation of backache and should not be lightly dismissed because the symptoms or signs do not point directly to it. The performance of a careful urinalysis, rectal examination or x-ray examination of the urinary tract will often give to the alert physician some clue that can be followed to a positive diagnosis. I wish to thank Doctors Day, Hinman, Gottlieb, and Player, for their excellent discussions.

Ill Chosen Advocates—The effrontery of the opponents of vaccination and vivisection has been displayed with a customary disregard of principle and sensibility in the activities of the Caruso Defense Committee. Under the leadership of Alexander Marky, a son-in-law of MacFadden and adherent of many of his views, a group of "antis" have been exploiting the emotional aspects of the Pendola murder for the dissemination of anti-vaccination propaganda.

Those who are genuinely concerned over the impending fate of Caruso will regret the entry of the anti-vaccinationists into his defense. They are the one group that have no right to plead for leniency in a case of this kind. The lurid misrepresentations that they habitually spread are designed to arouse the passions and prejudices of just such ignorant and confused mentalities as Caruso's. When a tragedy like the Pendola death occurs, the best that they can do is withdraw from the public eye and maintain a discreet silence.

The murder of the young physician, who had done all within his power to save the moribund child, was an appalling crime. If mercy is sought for the slayer, it cannot be asked on anti-medical arguments, but because of the inordinate ignorance of the killer. The Pendola murder is not fit grist for the anti-vaccination mills.—*New York Medical Week.*

A CLINICAL INTERPRETATION OF PULSE PRESSURE*

By J. MARION READ, M. D.
San Francisco

ABOUT twenty years ago the sphygmomanometer was added to the physician's armamentarium, thus enabling him to measure the blood pressure with considerable accuracy. But with this instrument of precision, as with other mechanical aids to diagnosis, the perfection of technical methods to measure deviations from the norm has outstripped our ability to interpret correctly the meaning of these deviations. This has seemed to be particularly true regarding the deviations of blood pressure from the accepted standards.

The clinical observations reported here are submitted as further evidence supporting the conception that a relationship exists between pulse pressure and ventricular systolic output.

Numerous investigators have shown that in hyperthyroidism the tachycardia varies in degree directly with the metabolic rate. It seems reasonable to suppose that this increased heart rate is an adaptation for increasing the volume of blood pumped out by the heart per minute, since the minute volume of the heart is known to be increased in this condition. But the pulse pressure also varies directly with the metabolism, as I have previously shown. An analysis of one thousand observations of the pulse rate, blood pressure and metabolic rate, made simultaneously under basal conditions, showed that the rise in pulse pressure with increasing basal metabolic rate is due to rise in systolic pressure, since the diastolic pressure remains practically constant. The pulse rate and pulse pressure both increase in a parallel manner with elevation of the basal metabolic rate.

When gathering these data it was observed that some subjects showed a disproportionate increase in either pulse rate or pulse pressure, with little or no change in the other. This suggested that some individuals might increase the minute volume by increasing the rate of systole per minute, while others accomplished the same increase in total blood flow by increasing the volume ejected into the aorta at each systole. Pulse pressure might then be a rough measure of stroke volume.

Recently there came under observation two individuals with complete heart block, as shown by electrocardiogram, neither of whom suffered limitation of activity imposed by circulatory insufficiency. One was a woman, 47 years old, whose slow pulse had excited interest since girlhood. P. R. 36-44, blood pressure, systolic 180, diastolic 80. The other was a man, 70 years old. P. R. 28-30. Systolic pressure 200-240; diastolic 70-100. Neither had aortic insufficiency.

The normal diastolic pressures in these subjects and the lack of any circulatory embarrassment, with moderate cardiac enlargement suggested that the blood pressure changes were adapted to permit an

* Abstract, chairman's address, General Medicine Section, California Medical Association, at the Fifty-Sixth Annual Session, April 25-28, 1927. Address in full published in *The American Heart Journal*, June, 1927.

adequate minute volume even with a pulse rate reduced to about half the normal.

In summary I will say that the minute volume of the heart being the product of heart rate and stroke volume, may be varied by altering either one or both of these factors; augmented blood flow results from an increase in one or both; and diminished flow follows a decrease in one or both. Proportionate changes in both, but in opposite directions, tend to maintain a constant minute volume. I have shown that in certain conditions alterations in pulse pressure occur which are in the same direction as one would expect stroke volume to vary in these conditions. While pulse pressure is not a measure of systolic output, its direction and magnitude of variation seem to parallel the changes in output.

870 Market Street.

THE INDICATIONS FOR SURGERY IN THE TREATMENT OF HAY FEVER AND ASTHMA*

By SAMUEL H. HURWITZ, M.D.
San Francisco

DISCUSSION by Wallace Bruce Smith, M.D., San Francisco; Irwin C. Schumacher, M.D., San Francisco; Harold A. Fletcher, M.D., San Francisco.

IF one judge from current literature as well as from discussions with colleagues familiar with this subject there is still considerable difference of opinion as to the value of surgical procedures in the treatment of hay fever and asthma. That the rhinologist and otolaryngologist should have played so important a part in the treatment of these patients is not surprising in view of the peculiar localization of their symptoms. Patients having prolonged attacks of sneezing, accompanied by an almost constant and profuse watery or mucoid discharge with nasal obstruction or headache, naturally seek relief from these symptoms by local treatment, and because of the widely disseminated view of asthma as a nasal reflex the surgical specialist also has been called upon to treat many of these sufferers.

That the many operative procedures employed, which include removal of polypi, amputation, excision and crushing of turbinates, straightening of septums, and more or less radical operations on the nasal sinuses have not always given results satisfactory enough to justify them is clear from the reports not only of internists and allergists, but also of nose and throat specialists themselves.^{1 2 3 4 5} An unbiased and critical answer to the question as to when surgery is indicated in the treatment of the patient with hay fever and asthma is not to be found by making, on the one hand, a statistical survey of the good results obtained by surgical therapy in these patients, nor, on the other hand, by citing the many instances of relief from symptoms by constitutional or other modes of treatment. This problem should be studied from a broader viewpoint. A proper evaluation of each form of treatment, either

alone or in combination, can be had only by a consideration of the constitutional factors and the nasal lesions underlying the symptoms for which the patient seeks relief.

CONSIDERATION OF INDICATIONS FOR SURGICAL TREATMENT

For purposes of clearness and brevity the subject of the indications for surgical treatment will be discussed under the following headings: 1. The Rhinologic Aspects of Allergy. 2. The Role of Nasal Anomalies and Infection of the Upper and Lower Respiratory Tract in Relation to Surgical Treatment. 3. Nasal Reflex Asthma and Surgery. 4. Summary and Conclusions.

I.

THE RHINOLOGIC ASPECTS OF ALLERGY

The last decade has witnessed a remarkable clarification of our knowledge of the causes underlying a certain group of diseases which we now designate as allergic. Although we are still in the dark as to the importance of the sympathetic nervous system, the endocrine glands, and certain physical and chemical agents in relation to allergy in man, we do know that most of the instances of hay fever, seasonal and perennial, and that more than half of all the asthmatic conditions result from an inherited hypersensitiveness to protein substances.

Allergy has been defined as a natural and not infrequently inherited state of human hypersensitiveness to proteins. Whether the protein is inhaled, thus coming into direct contact with the mucous membrane as in the case of pollen proteins and the proteins of cereal grains, animal hairs and dusts, or what is not so frequently realized, ingested in the form of food proteins, the reaction of the mucous membranes is the same. The latter is also true whether the reaction manifests itself in the upper or lower respiratory tract. Thus, in hay fever the sensitization exists primarily in the mucous membranes of the eyes and nose, whereas in asthma the membranes lining the bronchial tubes are the seat of this hypersensitiveness. It is rare, however, for a patient to show sensitization in only one of these localities. More commonly there is evidence of involvement simultaneously or consecutively of the cells of several membranes. Indeed, more than half of the hay fever patients develop bronchial asthma, due to irritation and congestion of the bronchial mucosa, analogous to that observed in the nose and throat.

The pathological changes in the respiratory mucous membrane, and more particularly the microscopic appearance of the nasal mucosa of an allergic individual exposed to a protein to which he is sensitive has been well described by many rhinologists. According to most observers, patients with seasonal or perennial hay fever may show either a simple turgescence of the nasal cavernous tissue with an increased secretion of mucus or serum, a picture not infrequently seen in non-allergic rhinitis, or in the more aggravated case, a marked pallor. This pallor is usually but not invariably accompanied by edema. Inspection of the nose shows great obstruction, often complete, resulting from the edematous, pale, mu-

*From the Department of Medicine, Stanford University Medical School, San Francisco.

Read before the San Francisco County Medical Society Section on Otolaryngology, February, 1927.

cous membrane, and in the old chronic cases, poly-poid degeneration of the mucosa is found in a large percentage of instances. In a large number of patients, placed by some observers as high as 25 per cent, there is present also sinus disease, either hyperplastic or suppurative. Whether these sinus conditions are merely coincidental, or directly secondary to nasal allergic manifestations, is still a moot question which will be referred to later.

The diagnostic significance of such lesions in their relation to seasonal hay fever is not difficult of interpretation, if with these findings there is a history of attacks of seasonal character, attended by coryza, lacrymation, itching of the eyes and nose, and sneezing. When, however, the same condition occurs as a perennial disease, the diagnosis is frequently overlooked and many surgical procedures are undertaken in an effort to give the patient relief.

When uncomplicated by nasal anomalies and infections which may require surgical therapy to remove obstructions and restore normal drainage, seasonal and perennial hay fever are non-surgical diseases of the nose and throat. Their diagnosis and treatment properly belongs to the internist, equipped with the knowledge, technical skill and materials to study allergic diseases with precision.

There is no disease group in which a detailed history is more essential, and there are few histories more difficult for the uninitiated to obtain. It is necessary to go into every ramification of the patient's life, activities and surroundings. The family history must be searched for the presence of manifestations of hypersensitiveness in antecedents, for nearly 50 per cent of these patients give a positive history of allergy in some form or other. Interesting in this connection is the observation that this allergic tendency may be transmitted according to the Mendelian Law of Inheritance. Allergic diseases may therefore now be regarded as truly inheritable diseases.

The circumstances of the attacks should be carefully investigated with proper emphasis on the onset, duration, termination, seasonal character and relation of exposure to pollens, animal hairs, dusts, food, and infection.

Skin tests are indispensable in the study of a patient with hay fever and asthma, and from a diagnostic viewpoint it is fortunate that the cells lining the cutaneous surfaces of the body, as well as those of the mucous membranes, show this peculiar hypersensitiveness to protein substances. The physician who expects to investigate many patients with hay fever and asthma must have in his possession suitable preparations of practically all substances that are known to cause these conditions. He must be willing to spend the time and have the patience to test and retest his cases, because frequently many and repeated tests are required before the cause or causes underlying a given instance of hay fever or asthma is successfully determined. It is for these reasons that the exact etiologic diagnosis and treatment of the allergic diseases is fast becoming a specialty in medicine. The medical treatment of these patients is now so well known that it is rare to find patients deprived of this newer therapy.

The indications for surgery in this group of aller-

gic patients have been well summarized by Coates: "In no case where protein sensitization can be demonstrated should dependence be placed on nasal surgery. Where this is done, good results will rarely be obtained, and for this reason surgery for such cases falls into disrepute. Allergic treatment should first be instituted and carried out.

II.

THE RÔLE OF NASAL ANOMALIES AND INFECTION OF THE UPPER AND LOWER RESPIRATORY TRACT IN RELATION TO SURGICAL TREATMENT

That infection of the upper and lower respiratory passages ranks as the second great factor in the development of allergic rhinitis and asthma is gaining recognition. Rhinologists have repeatedly called attention to the existence of infection of the ethmoid and maxillary sinuses in seasonal and perennial hay fever and in patients with asthma who do not show skin reactions to protein tests. It is now well known that such infection may be slight and not easily demonstrated and that transillumination and roentgen examination are frequently misleading, whereas drainage of the infected cavities very often gives marked relief or a complete disappearance of symptoms.

Considerable controversy has arisen between allergists and rhinologists in regard to the rôle played by nasal anomalies and infections in the production of the allergic manifestations. Todd,⁷ Selfridge,¹ Kahn,³ and Piness and Miller^{4,5} champion the view that infection is coincidental or directly secondary to the nasal allergic state, whereas Coates⁶ and others are equally strong in their conviction that infection, in many instances, is the primary cause of obstruction to sinus drainage and that the allergic state, if it can be shown to exist, may be more readily established in the presence of congested and irritated mucous membranes, so common in patients with paranasal sinus infections. This, of course, is more likely to be so where the mucous membranes become sensitized to inhalants such as those derived from pollens, animal hairs, feathers, and dusts.

Equally controversial, is the part played by infection as a primary cause of asthma. That asthmatic patients can become sensitive to the bacteria with which they are infected appears doubtful because by far the largest number of observers have failed to get any positive skin reactions with bacterial extracts. However, although few acknowledge the existence of actual sensitization to bacterial proteins, nearly all agree that secondary infection of a congested and edematous bronchial mucous membrane may serve to bring on and to perpetuate asthmatic paroxysms, the original cause or causes of which may have escaped detection. This viewpoint has so direct a bearing upon our conception of what constitutes appropriate surgical treatment in this type of asthma that it merits a little further emphasis.

In previous papers^{8,9} on bacterial asthma a number of clinical features which characterize this group of asthmatics were stressed. It was pointed out that the carefully taken histories of many children and adults show over and over again the following facts: first, the attack of asthma started after some res-

piratory infection, such as whooping cough, influenza, bronchopneumonia, grippe, a neglected bronchitis or tonsillitis; second, every subsequent attack or series of attacks, was introduced by a new cold or bronchitis, coming on, as a rule, at a time of year when naso-bronchial infections are prevalent; third, a large number of asthmatics are the subjects of chronic bronchitis from which they suffer more or less even in the interval between attacks. This bronchitis, whether it can be shown to have antedated the first asthmatic paroxysm or whether it is a concomitant affair of subordinate nature, developing secondarily to the asthma, should be looked upon as the inciting cause of the recurrent paroxysms.

The part played by infection in the etiology of hay fever and asthma has been stressed at some length because an appreciation of its importance makes the logical rôle of the surgical specialist in this group of patients clearer.

Regardless of whether a nasal anomaly or a focus in the nose or throat, or a sinus infection is directly secondary to the nasal allergic manifestations or is coincidental, if drainage is interfered with, it would seem to be a common sense procedure to correct it. The results of many rhinologists⁶ support the conclusion that some of the perennial hay fever patients and certain of the asthmatics are given considerable relief by appropriate surgical measures. It is, of course, true that in many instances an allergic state is coexistent with nasal or other local factors, and that surgical therapy cannot entirely remove the root of the evil. In these patients the allergic background must also be searched out and, if present, treated before a complete result can be achieved. It is at times difficult, when allergy and nasal anomalies and infections are both present, to decide which form of treatment to employ first. The best results in this group of patients can be attained only by the closest cooperation between the allergist, internist, and rhinologist, not only in diagnosis, but also in proper treatment. Only few generalizations are possible in the rational management of those hay fever and asthma patients who require a combination therapy. If the history and examination clearly indicate that the faulty mechanical condition of the nose is the result of obstruction from a turgescent, allergic mucous membrane, surgical treatment should be deferred until an attempt has been made to relieve the patient's symptoms by desensitization with the protein offender. Should, however, proper ventilation and drainage of the nose still remain defective, an attempt at corrective surgical treatment is justifiable. Indeed, the necessity of improving without delay the patient's general health, vitality and resistance to infection frequently demands the simultaneous employment of surgical and constitutional treatment. This is particularly true of the chronic asthmatic with an allergic background who after he has been relieved of his asthma may still continue to have symptoms because a chronic bronchitis remains. In such instances it would be folly to leave an infective focus in the nose or throat to drain bacteria-laden secretions into the larynx and trachea. The eradication of such a focus of infection may be combined advantageously with the administration of an autogenous vaccine

made from the same strain of bacteria causing the infection. Frequently by these means a good therapeutic result may be obtained when surgery alone, or desensitization alone, or vaccination alone may fail.

Where chronic infection of the bronchi is found responsible for the patient's asthmatic condition and no obvious anomalies or infections exist, surgical interference can do no good. These patients are likely to be already depleted of physical and nervous vitality and should be spared the added load of a neurosis which may follow upon the blasted hopes attending a surgical failure.

The bronchospasm in this type of asthmatic results from the patient's effort to raise the thick and tenacious sputum secreted by a congested and edematous mucous membrane, so often the aftermath of a respiratory infection such as whooping cough, bronchopneumonia, or influenza. A medical regimen is most useful in these cases. This should include general hygienic measures directed toward an improvement of the patient's resistance to infection, and the employment of properly prepared and carefully administered autogenous sputum vaccines, the value of which in this group of bacterial asthmas has been emphasized in previous papers^{8,9}.

III.

NASAL REFLEX ASTHMA AND SURGERY

Any extensive discussion of asthma as a nasal reflex must involve a consideration of certain anatomic and physiologic problems of sympathetic innervation, which are beyond the scope of this paper. The view that certain forms of asthma are due to reflex action from nasal lesions has been largely sponsored by rhinologists^{10,11}. There is no accurate way of obtaining reliable data on the real importance of this reflex factor in the etiology of asthma.

On theoretical grounds, the conception of reflex asthma is supported by the immense area of peripheral exposure offered by the membranes of the respiratory passages. This favors a degree of irritation and absorption present in no other part of the body. These membranes are supplied with a nerve mechanism of such complexity that the various impressions can be carried to all parts of the body. The nerve fibers that emerge from the sphenomaxillary fossa and that are distributed to the nasal and accessory nasal membranes contain sensory, secretomotor, vasodilator and vasoconstrictor fibers. Furthermore there is physiological proof that a local disturbance of the nose may, through these innervations, cause respiratory, cutaneous, circulatory, and visceral symptoms.

Again, from a theoretical viewpoint it would appear reasonable to believe that the correction of local sensitive spots and the removal of tissue that may be responsible for reflex symptoms by pressure may give more complete relief than desensitization and vaccination alone.

That certain types of reflex asthma can be benefited, for short periods at least, by sphenopalatine ganglion injections with Sluder's alcohol phenol combination,¹⁰ or by blocking the various branches of the fifth nerve supplying the nasal mucosa¹¹ is

too well known to the surgical specialist to merit more than passing mention.

IV.

SUMMARY AND CONCLUSIONS

A decision as to the proper place of surgery in the treatment of hay fever and asthma should be based upon a consideration of the constitutional factors and nasal lesions underlying the symptoms of the individual patient.

Seasonal and perennial hay fever, uncomplicated by nasal lesions, are non-surgical diseases. A careful search will usually be rewarded by finding the protein offenders responsible for the symptoms.

Where protein sensitization can be demonstrated, no dependence should be placed on nasal surgery unless desensitization fails to relieve the symptoms.

Infections of the upper and lower respiratory tract are important factors in the development of hay fever and asthma. Infection is the only demonstrable cause of symptoms in a large number of asthmatic patients nonsensitive to proteins on repeated tests.

Where an infective focus in the nose, throat, or sinuses exists, appropriate surgical measures are justified to secure proper ventilation and drainage, regardless of whether the infection is coincidental or secondary to nasal allergy.

Frequently the allergic state is coexistent with nasal infection. Better results in these patients can be attained by desensitization combined with surgical treatment. In the diagnosis and treatment of this group the best interests of the patient will be served by the closest cooperation between the allergist, internist, and rhinologist.

In bacterial asthma surgical treatment is indicated only when an infective focus in the nose and throat drains bacteria-laden secretions into the larynx or trachea. Corrective surgical measures in such instances will help to improve the general health and vitality of the patient and make more valuable the results of general hygiene and vaccination.

Surgery has no place in the treatment of the patient with asthmatic bronchitis in whom no nasal anomalies or infections are demonstrable. Where it is carried out good results will rarely be obtained, and failure will only cause surgery to fall into disrepute.

The importance of the nasal reflex factor in asthma is as yet not well established. That it does play some part in causing symptoms is shown by the good results which at times follow the inhibition of this reflex by surgical means.

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DISCUSSION

WALLACE BRUCE SMITH, M.D. (490 Post Street, San Francisco)—It is perhaps for the relief of the symptom of blocking of the nasal passages and consequent inability to breathe through the nose that most of the unnecessary surgery in this condition is undertaken. When this blocking is caused by swollen turgescient mucous membrane unaccompanied by anatomical anomalies or new formations (polyps, etc.), surgical interference is not indicated. The nasal mucous membrane is the most constantly used mucous membrane of the body, and should be scrupulously preserved. If any part of it is destroyed it is replaced by non-functioning scar tissue.

If the allergic condition is associated with deviations of the septum, polyps, or chronic accessory sinus disease, these conditions are to be relieved by the proper surgical procedures. But the surgical indication ceases at that point and the measures for relief along desensitization lines begin. The blocking of a nose by allergic mucous membrane swelling corrects itself when the patient is desensitized against the offending protein. The removal of the turbinate bones for this condition, still too frequently undertaken, cannot be condemned too severely.

For the allergist, on the other hand, to undertake remedial measures without first assuring himself of fundamentally correct upper air passages free from chronic infections is to care as little for the well-being of his patient as the rhinologist who removes turbinate bones.

The handling of allergy is to be undertaken by both allergist and rhinologist irrespective of whether that duality reposes in one person or not.



IRWIN C. SCHUMACHER, M.D. (University of California Hospital, San Francisco)—It is most important that an etiologic diagnosis be arrived at before appropriate therapy can be instituted. I agree with Doctor Hurwitz that in the field of hay fever and asthma this is best ascertained through the combined efforts of the allergist, internist and surgical specialist, in this case the otorhinolaryngologist.

Because so many of these patients first consult the nose and throat specialist, it is imperative that he be interested in the possible underlying allergic state to insure the proper course of therapy.

Recognition of possible allergic states is more readily afforded by taking a careful history along the following lines: a possible family history of allergic manifestations; a personal history including the age of onset and duration of the condition, whether it is perennial or seasonal; the place of onset and its relation to the recurrence of attacks, effect of change of environment, locality or occupation and, finally, inquiry as to allied allergic manifestations. With these data it is then frequently possible

for the surgeon to determine whether the patient should be given the protein skin tests.

The seasonal type, either of asthma or hay fever, offers no difficulty in this respect. But it is the perennial type of hay fever and the "sub-hay-fever" groups of Pines and Miller, which have so often been subjected to unnecessary topical and surgical treatment and many times with no relief to the patient.

It seems a common sense procedure to remove polypi and perform other corrective operations or institute topical treatment which will restore or promote proper drainage even in those cases in which there is a chronic turgescence of the mucous membrane, regardless of which is the primary etiologic factor. But it has been repeatedly shown that these measures alone are generally insufficient, because they must be combined with the therapy instituted by the allergist to correct or relieve the underlying allergic condition to afford the patient the maximum amount of relief.

When the nasal pathology does not in itself seem sufficient to explain the patient's condition, consultation by the surgeon with the allergist is obviously indicated.

The eradication of infective foci in the nose, throat or sinuses with appropriate surgical procedures to promote drainage and secure proper ventilation is indicated whenever these exist, regardless of whether the individual has or has not hay fever or asthma—if only in the hope of improving his general condition.

These procedures are especially indicated in that group of asthmatic bronchitis or bacterial asthma cases where the bacteria-laden secretions are draining into the nasopharynx or throat.

Except for the possible beneficial effect on the patient's general condition, such procedures would seem to be valueless in the treatment of cases of allergic bronchial asthma.

Finally, we must not lose sight of the fact that measures directed toward improving the general condition of the patient are very important.

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HAROLD A. FLETCHER, M. D. (490 Post Street, San Francisco)—In listening to Doctor Hurwitz read his paper before the San Francisco County Medical Society, and later having the pleasure of reading his paper over and taking more time for the details of the subject contained therein, I have been struck with the fairness and broad-mindedness with which he has taken up this subject.

All too many rhinologists fail to look upon the general nature of hay fever and asthma and place too much weight on the local conditions in the nose. It also may be said that a great many physicians, as well as those general physicians interested particularly in allergy, do not credit the local conditions in the nose with the importance they deserve.

There is a middle ground which in the future will become more and more important, which will mean that each individual case will be worked up in a cooperative manner between the rhinologist and the allergist or general physician treating allergic conditions. Without this cooperation, neither one department or the other will become any more successful than has heretofore been the case.

Looking at the subject as a whole, there are always those simple cases which respond to the simple removal of irritating factors locally in the nose. There are also those very difficult cases which, in spite of the most careful reconstructive work in the nose, together with the most careful corrective measures, from the standpoint of general medicine and attempted removal of allergic conditions, so far, have not been benefited.

It is in these latter, more complicated cases that the most careful, conservative work on the part of the rhinologist is necessary. To be able to distinguish between infection in the nasal sinuses due to an allergic condition and infection which is primary and thereby a probable cause of an allergic condition taxes the clinical ability of the rhinologist to the utmost, and decisions must be based on careful observation and careful reasoning.

My own feeling is that the field of hay fever and asthma is a general one and should be in the hands of

general physicians capable of handling the subject of allergy from all standpoints, and that the rôle of the rhinologist should be secondary, ready to aid in the diagnosis and treatment, whether surgical or medical, of any local causative factors.

ADVANTAGES OF ETHYLENE-OXYGEN AS A GENERAL ANESTHETIC*

By GEORGE A. JOHNSTONE, M. D.
Glendale

THE gas ethylene (C_2H_4) was introduced by Luckhardt and Carter¹ of Chicago and was first used in the Presbyterian Hospital of that city. It is one of the hydrocarbons prepared by passing ethyl alcohol over anhydrous sulphuric or phosphoric acid, thus extracting a molecule of water. It may be considered as an anesthetic occupying an intermediate place between nitrous oxide and ether. It has certain definite and distinctive advantages. It mixes with ether satisfactorily, and by using the ordinary gas inhaler a mixture containing from 1 to 25 per cent of ether vapor may be substituted at any time.

ETHYLENE IN MAJOR AND MINOR SURGERY

Ethylene is successfully used as a general anesthetic in major as well as in minor surgery—tonsillectomies, appendectomies, caesarean sections, hysterectomy, gastroenterostomy, cholecystectomy and other operations; and where the age of the patient has ranged from three days to eighty-four years.

HOW ETHYLENE ACTS

Complete anesthesia may be induced within three to eight minutes. Very seldom is any excitement or sense of suffocation experienced. The relaxation produced is sufficient for all ordinary operations outside the abdomen; but in order to obtain the proper relaxation for intraabdominal operations, especially the upper abdomen, it is often necessary to use in conjunction some ether at the beginning of the operation, also while there is much handling of viscera. In our experience, one ounce of ether is usually quite sufficient for operations lasting from one to two hours; and this does not retard, to any noticeable degree, the return to consciousness of the patient. With alcoholics much more ether is required.

Vomiting usually occurs while the patient is still on the operating table, after the reflexes have returned, aspiration of the vomitus being thus avoided. The patient experiences but little nausea afterward, this depending to a great extent upon the amount of ether used, and upon the anoxemia while anesthetized. We have had acute appendicitis, gall bladder and gastroenterostomy cases where there has been no vomiting during or following the operations.

Luckhardt and Lewis² of Chicago made a careful survey of 119 patients who were given ethylene oxygen, and noted that gas pains were present in 4.2 per cent, whereas 36.6 per cent of those who were operated upon with ether anesthesia suffered from

* Read before the Anesthesiology Section, California Medical Association, at the Fifty-Sixth Annual Session, April 25-28, 1927.

this particular postoperative discomfort. In our experience, the percentage is not as low as this, but we do observe a marked difference in the frequency and degree and duration of the gas pains following the ethylene as compared with ether anesthesia.

Relaxation can be obtained without cyanosis much more readily than when nitrous oxide and oxygen are used. Luckhardt states that the color of the patient is more nearly normal than with any other inhalation anesthetic now in use. Our observation confirms this.

Ethylene is considered less toxic on the nervous system (body cells) in that there are very few headaches from the anesthetic, whereas following nitrous oxide anesthesia the patient frequently complains of throbbing headaches.

After one or two hours of complete anesthesia the patient's garments are dry and rarely need to be changed. Patients are not dehydrated (desiccated) during the operation; and we believe this to be one of the strongest considerations in favor of ethylene. A dry skin (dry clothes) prevent chilling and perhaps is a factor in preventing postoperative lung complications.

NARROW ANESTHETIC MARGIN

The patient passes rapidly from the anesthesia to the waking stage. We cite the following instance where the patient was a poor surgical risk to begin with, where considerable blood was lost on the table, and where the operation performed was one usually attended with considerable shock. The patient awakened immediately, and we were able to administer such stimulants as were necessary for shock, but with the patient conscious. If ether had been used, it would have been necessary to give an unconscious patient stimulants, possibly overstimulating him, because we could not so readily observe the effects. Having the patient awake so soon after the operation is considered by some a disadvantage, but in the case just cited we were glad to have the patient awake immediately, instead of being asleep from one to three hours.

Ethylene is now used in many clinics on all patients with pulmonary tuberculosis, asthma and kindred diseases, who must undergo operation but where it is highly desirable to avoid further lung irritation. There is no increase in the flow of saliva or mucus along the respiratory tract even though the patient has not been given atropine preoperatively.

Donald C. Balfour of the Mayo Clinic, some time ago, during a period of eighteen months, performed more than four hundred stomach operations, using ethylene; and gives this fact as the reason for so few deaths.

RISE IN BLOOD PRESSURE DURING ANESTHESIA

Heaney and Luckhardt^{1 2} of Chicago, Allgeyer³ of New Orleans, and Aurelius of Minneapolis, declare there is very little change in blood pressure. Lundy⁵ of Washington reports four cases of infants where there was increased systolic of 25 mm. mercury; while our series of one hundred cases, where blood pressure was taken at the beginning of the operation and thereafter every five minutes during operation, shows an average increase in systolic pres-

sure of 26 mm. systolic and 14 mm. diastolic. With some patients there was a greater increase than with others, but 26 mm. was the average. The duration of operation on these patients varied from twenty minutes to two and one-half hours. Usually there is a rapid rise within the first ten to twenty minutes, after which time the pressure gradually recedes to normal. In a few instances the pressure was normal for the first half hour; and after that there was a marked increase, the pressure receding to nearly normal later during the operation. In comparing the pressures at the completion of the operation the average case shows no change, while in a few cases it was slightly lower; in others higher.

The question arises, is this an advantage; or is it a disadvantage? Can ethylene be used with safety in hypertension cases? One of our gall bladder patients, a poor surgical risk on account of a cardio-renal complication, with a pressure of 222 systolic and 120 diastolic, presented an interesting variation from the average, in that she began at 222 mm. systolic pressure, rising to 228 after a few minutes, then gradually receding to 120 systolic, 80 diastolic, and remained so until the end of the operation. Other hypertension patients presented practically the same picture.

At first we were somewhat reluctant to administer ethylene to hypertension cases; but an observation made by one investigator, that if digitalis were given to certain hypertension cases it would decrease their pressure, led us to try ethylene in such patients. Our series has not been sufficiently large as yet, to warrant definite conclusions.

To some this increase in blood pressure may seem a disadvantage, due to the fact that it results in increased bleeding during the operation. However, if there is an increase of blood pressure during the operation, all bleeding points are carefully ligated before the abdomen is closed, thereby avoiding postoperative hemorrhage. Whereas, with ether anesthesia, where there is lowering of blood pressure, one might overlook a small bleeding point, so that when pressure returns to normal a postoperative hemorrhage might occur. Is it not better to have an anesthetic which will produce anesthesia, and still be a cardiovascular stimulant rather than one which is a depressant?

HASTENS COAGULATION OF BLOOD

Recent investigation by Straus and Rubin shows that the coagulation time and the bleeding time were markedly decreased during and following the administration of ethylene. This was especially noticeable in jaundice patients.

Leake and Hertzman⁴ of the University of Wisconsin, working along this line, found that there is much less acidosis during an ethylene-oxygen anesthesia than with ether or chloroform. They used the Van Slyke method for this determination. In considering one hundred major operations where ether was used, we found that there was a postoperative acetoneuria in about 85 per cent of the cases; whereas in one hundred major operations where ethylene was used the average was about 70 per cent. Acetone found in the urine, postoperatively, is of very little significance, for patients are usually deprived of

one or two meals before anesthesia and thus might show acetone in the urine without having had an anesthetic.

Infants, as well as patients, who are aged, are usually completely anesthetized, without the additional use of ether or a preliminary opiate.

RESPIRATORY FAILURE BEFORE HEART FAILURE IN LETHAL DOSES

Experiments on dogs show that respiratory failure comes long before cardiac failure; and the dogs always responded to artificial respiration after a lethal dose.

TWO DISADVANTAGES OF ETHYLENE

1. Odor. 2. Danger of explosion. The odor is complained of when the gas is first introduced into the operating room; but after its continued use it is scarcely noticeable, except to newcomers or visitors.

Ethylene is inflammable, and with certain mixtures of air and oxygen is highly explosive. Experiments worked out by Brown⁶ of Toronto show that ether vapor is more highly explosive than ethylene gas. The thermocautery should never be used on a patient to whom ethylene is being administered; neither should ethylene be given in the x-ray room nor where high frequency is used as a cautery. Luckhardt says that, contrary to the common belief, nitrous oxide will ignite with an ensuing explosion, but not nearly as readily as ethylene gas or ether vapor.

A while back a doctor in Kansas, while cauterizing an urethral caruncle with a high frequency machine, experienced an explosion with nitrous oxide oxygen. A Hydebrink gas apparatus was the one used, and there was no ether in the vicinity; yet the patient was badly burned and received a court judgment of six thousand dollars.

Heaney reported two explosions with ethylene in obstetrical work, which he attributed to static sparks. They occurred in the same delivery room, the same anesthetist using a McKesson gas machine on both occasions. There was no free flame present on either occasion; no one was badly hurt. He also reported an explosion about a year ago, while using nitrous oxide and oxygen in the same delivery room, under similar circumstances. He stated further that a certain manufacturer of gas machines informed him that there are about 100 explosions per year from one cause or another while using ether in conjunction with nitrous oxide oxygen. Luckhardt, of Chicago, states that explosions from static sparks are easily overcome by grounding the gas machine and running a wire through the rubber tubing from the gas machine to patient.

CONCLUSIONS

While the use of ethylene is of quite recent origin in the field of inhalation anesthesia, we have endeavored to give it a fair consideration and are well pleased with the results obtained. However, at present we add 1 to 5 per cent carbon dioxide as a respiratory stimulant, whereby we believe we obtain better relaxation, and in most cases are enabled to eliminate the use of ether entirely. Our reason for

adding carbon dioxide is that surgeons generally insist upon giving morphin preoperatively, which is a respiratory depressant. In many cases the respiratory center is so depressed that the patient does not breathe sufficiently well to aerate the lungs with ethylene, and as a consequence proper relaxation is not obtained. With the mixture just indicated this is overcome, and we believe it will add to the efficiency of this comparatively new anesthetic.

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Anti-syphilitic Treatment of Pregnant Women—One of the many important things that Doctor Hopkins brought out, and it needs to be emphasized and repeated again and again, is the enormous benefits that have come from prenatal treatments of the syphilitic mother. . . . That is the first point that Doctor Hopkins emphasized, and I want to say it again in expressing the thought that a thing has to be said again and again in order that it may sink in. I find that true in my own case. I hear things many times and say to myself, "Well, I heard that a year ago." But it did not impress me profoundly. It simply caromed off the mind, so to speak, and I did not get it. But this is a thing worth remembering. We are getting from clinics all over the country corroboration of the fact that the syphilitic pregnant woman is peculiarly responsive to medical treatment. In no better way can the possible blindness of the child be more effectively warded off.—Park Lewis, proceedings of the Twelfth Annual Conference of the National Committee for the Prevention of Blindness.

What Is a Charitable Institution?—A point that has aroused a question in the minds of some legal jurisdictions is whether or not the charging of fees to private patients affects adversely the legal status of a charitable hospital, and in this connection the following decisions selected from Lapp and Ketacham on Hospital Law are offered:

"That fees are charged by a university or hospital is not controlling as to its being a charity, for only when such income is devoted to the profit of the founders and not used to carry on the work by adding to the endowment, etc., does it show the institution is a business and not a charity." (1916 *Butterworth vs. Keeler*, 219 N. Y. 444, 114 N. E., 803 offg. Judgment, 154 N. Y. S 744, 169, App. Div. 136.)

"What controls is not the receipt of income but its purpose. Income added to the endowment helps to make it possible for the work to go on. It is only when income may be applied to the profit of the founders that business has a beginning and charity an end. The line of division is the same whether the gift is devoted to education or to the relief of the poor, the halt and the blind."

"When the bequest is to an association whose beneficence is restricted to its members only, it is not a public charity." (Bobb vs. Reed, 5 Rawle (Penna.) 151, 28 Am. Dec. 650.)

"But, if extended to non-members, may be counted as public charity." (1848, *Pickering vs. Shotwell*, 10 Pa. 23.)—Bulletin A. M. A., April, 1927—Atlantic Medical Journal.

BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An open forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects and discussants invited.

THE TREATMENT OF RINGWORM

Samuel Ayres Jr., Los Angeles—The successful treatment of ringworm affords an excellent opportunity for the practice of the art of medicine. The science of the matter is very simple: the disease is caused by a fungus; the cure consists in killing the fungus. Any problem is rendered less complicated if at least one of the important factors remains constant. In the case of ringworm I propose to make the medication a constant, varying the other procedures to suit the particular variety and location of the disease. The antiparasitic application having probably the widest range of usefulness in this disease is known as Whitfield's ointment, which consists of the following:

| | |
|------------------|-------|
| Salicylic acid | 2\| |
| Benzoic acid | 4\| |
| Benzoinated lard | 30\|mx |

Exceptional cases may be encountered which may not respond to this treatment, but if the proper technique is observed, they will be extremely few.

Ringworm of the scalp, or *tinea capitis*, presents two common clinical varieties, the small spore type with sharply defined scaly areas in which the hair is broken off close to the scalp, and the large spore type with patchy scaling but with a more diffuse involvement, relatively few hair stumps and no definite areas of baldness. Either of these types may acquire a secondary bacterial infection with large, swollen, inflamed areas surmounted by follicular pustules. The following technique will usually result in a cure in about six weeks:

Epilation. The diseased hairs must be removed to get rid of infected material, since the fungus is mostly on the outside of or within the hair itself, extending a considerable distance below the surface of the skin, and to allow medication to penetrate more easily into the follicle. Mechanical epilation by means of epilating forceps, adhesive plaster or wax are satisfactory if carried out intelligently. It is advisable to demonstrate the method of epilation before the parent and to insist that the parent continue the process every day, and to check up on the progress at least once a week. After the first epilation has been accomplished, the entire scalp should be shaved. This makes it possible not only to treat the affected areas, but to prevent new areas from developing by applying the ointment to the entire scalp and vigorously rubbing in for at least five minutes twice a day. If this should irritate the scalp after a few days, it may be omitted for a short time, substituting a milder preparation, such as 2 per cent ammoniated mercury ointment, resuming when the irritation subsides.

Headgear, such as combs, brushes, hats, etc., should be discarded. Skull caps made of clean

muslin should be worn day and night to keep the ointment in contact with the scalp, to protect the hats and pillows from contamination, and to keep the child from scratching or handling the diseased areas. The skull cap should be changed each twenty-four hours, boiling the old one for fifteen minutes before using again.

Secondary infection can be controlled by the temporary application of antiseptic wet dressings and exposure to the ultra-violet light.

The physician should exercise careful supervision and should continue the treatment for at least two weeks after the disease seems to be entirely cured. The presence of any broken, easily removed hair stumps means that the disease is still present. X-ray has been advocated as an easy method of epilation and it certainly does simplify the treatment, but it is not without danger; the margin of safety between the dose necessary to produce temporary loss of hair and the dose which may result in the permanent loss of hair is not large. In treating a benign disease which will with proper technique respond to more conservative measures, it seems hardly justifiable to take even a small chance of doing irreparable damage. In my opinion epilation by x-ray should be resorted to only in the event of failure of the above method, and that will be extremely seldom. Ultraviolet light does not penetrate sufficiently to affect ringworm deep in the hair follicles.

Ringworm of the glabrous skin or *tinea circinata* is the common type of ring-shaped lesion frequently produced by contact with an infected cat. Treatment of this type offers no problem. Application of Whitfield's ointment twice a day for about a week usually suffices. Iodin is an old remedy, but the cure is frequently worse than the disease because of its tendency to blister.

Ringworm of the nails, or *onychomycosis*, is one of the most stubborn types of all. As much of the affected nail as possible should be trimmed away with scissors and the remainder scraped with the edge of a glass slide after applying a drop of 40 per cent KOH to soften the nail substance. This should be repeated at weekly intervals, with the constant application of Whitfield's ointment between scrapings. Gloves which have come in contact with the affected nails should be discarded.

Tinea versicolor, or ringworm of the chest and back, is not so highly contagious as the other types, but is extremely chronic, often persisting for fifteen or twenty years or more. Whitfield's ointment applied twice daily for a week usually cures the condition. After a week's rest it should be applied again for a week. The clothing which comes in contact with the skin should be sterilized.

Epidermophytosis, or eczematoid ringworm of

the hands, feet and genitocrural region, yields quickly to Whitfield's ointment usually within two weeks. Vesicles should be incised to permit easier penetration of the medicament. Three apparent sources of difficulty should be mentioned. Some patients complain that no matter how long they use the ointment, their skin continues to form scales; this is due to the fact that the salicylic acid stimulates exfoliation, which very closely resembles the scaling caused originally by the disease, and which disappears promptly on switching to a milder application. Again, the too prolonged use of Whitfield's ointment may set up a secondary eczematization which takes the place of the original disease. In the third place, an error in diagnosis is occasionally made in pronouncing as epidermophytosis what in reality is a vesicular eczema of the palms and soles. In some instances the two diseases so closely resemble each other that the differential diagnosis rests on finding the parasites microscopically in excised vesicles. Obviously Whitfield's ointment would greatly aggravate any eruption of the eczema group.

Ringworm of the beard, or tinea sycosis (to be differentiated from sycosis vulgaris, a simple pyogenic infection) is treated along the same general lines as ringworm of the scalp, employing epilation of the diseased hairs. Use Whitfield's ointment and alternate with 2 per cent ammoniated mercury when evidence of irritation is seen or with antiseptic wet dressings and ultraviolet light when pustules predominate. Shaving apparatus should be sterilized after each use.

* * *

Hiram E. Miller, San Francisco—It is impossible to write anything of practical value on the general subject of "ringworm" infections of the human body in the short space allotted for this discussion. The diagnosis and treatment of tinea infections of the scalp, beard, groin, body and nails have not materially changed in the last few years. The marked increase in the prevalence of "ringworm" infections of the hands and feet, and the difficulties encountered in successfully combating them, makes ringworm a subject of considerable interest to the general practitioner as well as the dermatologist. I will limit my discussion to this phase of the subject.

There are two general clinical types of "ringworm" infection occurring on the hands and feet: (1) The acute vesicular, and (2) the chronic intertriginous.

The acute type may develop suddenly in twenty-four to forty-eight hours with perhaps hundreds of pinhead sized vesicles or pustules more or less uniform in size diffusely scattered over the palms and dorsal surfaces of the hands and feet. This type of the disease was frequently classified in former years as a dysidrosis or pompholyx. About the only conditions to be considered in a differential diagnosis of the acute type are (1) eczema, (2) dermatitis from external irritants and (3) pompholyx or dysidrosis.

It is very unusual to find an eczema or a dermatitis from an external irritant involving all four

extremities and leaving the rest of the body uninvolved. At the present time it is debatable whether such a condition as pompholyx or dysidrosis exists. Many authorities think that all of them are acute tinea infections. The only way to make a positive diagnosis is to clip the roof off of one of the larger vesicles, preferably from the foot, put it on a slide with 1-20 per cent potassium hydroxide, and demonstrate the fungus under the microscope. This can be done in most of the cases, with a little skill and practice.

The treatment of the disease in the acute stage is tedious and exacting for the patient as well as the physician. Antitinea remedies cannot be used until the acute symptoms have been controlled. Soaking or compressing the areas in $\frac{1}{2}$ to 1 per cent aluminum acetata, or 1-5000 potassium permanganate have been found to be of the most value in this stage of the disease. It should be used for one to two weeks. Then a 1-2 per cent crude coal tar ointment may be resorted to for a week or two before starting specific antitinea remedies. If most of the lesions have involuted one may begin cautiously with 2-3 per cent salicylic acid and 4-6 per cent benzoic acid in petrolatum and lanolin. The strength of these ingredients may be increased as the disease improves, but must be continued with for three to four weeks after it is apparently well, or it will certainly recur.

In the chronic intertriginous form of the disease there is a white sodden mass of desquamating epithelium between the toes, with a more or less well defined, and at times, vesicular margin. There may be isolated small desquamative areas elsewhere on the feet or hands with a few dried up or active vesicles. This form of the disease may be confused with chronic eczema, psoriasis, syphilis, scabies, etc. A careful search will generally reveal the presence of the fungus in scales or dried up vesicles. In this chronic form of the disease 3 per cent salicylic and 6 per cent benzoic acid in petrolatum and lanolin can generally be used at once and the strength increased as occasion demands. If the sodden areas between the toes do not respond to this therapy, they may be scraped with a dull curette about twice a week and 4 per cent chrysarobin in chloroform applied.

Ideally, it should be a simple matter to cure a specific infection of this type. In practice it is often quite difficult. The ideal remedy must destroy the fungus without appreciably irritating the skin. Unfortunately, such a remedy has not been found. The fungus penetrates quite deep into the keratotic skin of the hands and feet, and to destroy successfully, it may require considerable skill and patience. The large number of drugs suggested in textbooks and medical periodicals for the treatment of "ringworm" of the hands and feet is of itself ample evidence as to the ineffectiveness of most of them.

* * *

Moses Scholtz, Los Angeles—Diagnosis of Ringworm of the Glabrous Skin—One of the most important clinical contributions by clinical dermatology of recent date is the identification and isolation of the group of epidermophytosis, i. e., trichophytosis. Until lately innumerable cases of

this type were regarded as eczemas and intertrigos just because the mycotic dermatoses have a strong tendency to attack intertriginous spaces and assume an eczematoid appearance.

The most common clinical types of epidermophytosis, now definitely established and bacteriologically confirmed, are interdigital vesicular and squamous, plantar and palmar, also the inguinal and axillar. The clinical evidence of these types of epidermophytosis is incredibly common. Here in southern California the spread of epidermophytosis has reached the stage not only of epidermic but actually of endemic.

In view of this it becomes a matter of vast clinical importance to render its diagnosis readily feasible and possible in the hands of the general practitioner. In spite of ample literature on the subject, it is strange that many practitioners seem to be unfamiliar with this important clinical group. The responsibility for this lies, to a great extent, with the current writers who over-emphasize the importance of microscopic and cultural bacteriologic examination and fail to mention and emphasize the clinical differential features of epidermophytosis.

It was my contention in an article published in the *New York Medical Journal and Record* in March, 1926, and conceded since then by many clinicians, that in clinical work the bacteriologic confirmation, though desirable, is not necessary; in fact, in many cases it is unobtainable and that, in the majority of cases, diagnosis can be made on clinical data alone.

The differential morphologic features sufficiently pathognomonic to enable one to make a clinical diagnosis of epidermophytosis are, in my experience, as follows:

In vesicular ringworm the vesicles are large, deep and stay discrete. On the other hand, eczematous vesicles are smaller, more superficially uniform in size, and tend to coalesce into diffuse ill-defined patches.

On being ruptured, trichophyton vesicles dry up quickly, showing a characteristic marginated scaly edge, while eczematous vesicles, on being ruptured, continue to exude serum indefinitely.

Scaly or squamous trichophytosis can be readily recognized by sharply defined borders and circinate or gyrate marginated edges. Here one must look for an "epidermal collarette" consisting of a marginated festooned edge with upturned scales attached to the outer end and free toward the center.

Speaking generally, squamous eczematoid ringworm presents a picture of peripheral desquamation, while in eczema diffuse infiltration and exfoliation throughout the whole area of the patch are dominant morphologic features. Furthermore, eczema has no preferential localization. On the contrary, ringworm has a strong tendency to a selective localization such as, interdigital spaces both on the feet and hands, plantar and palmar surfaces, and inguinal and axillary regions.

As a rule, eczematoid ringworm is more superficial than common eczema, presents much less infiltration and hardly ever lichenification.

These few salient morphologic features, if kept in mind and looked for, offer a sufficient basis for

differential diagnosis and clinical identification of the trichophytic nature of an eczematoid looking patch.

* * *

Ernest K. Stratton, San Francisco—I believe that diagnosis of ringworm presents more difficulties to the general practitioner than does its management; for if one is not sure of the infectious nature of any skin disease he invariably hesitates to apply any but soothing medication; however, this disease in all of its phases except the acute vesicular type, which Doctor Miller has already discussed, continues to progress unless attacked by fungicides. Most textbooks on Dermatology recommend many different fungicides, advising the use of one in one part of the body and another in another part. The therapeutic principle is the same wherever used. A peeling preparation such as an ointment or alcoholic lotion containing 5 per cent salicylic acid is used first for the purpose of removing the upper layers of the epidermis, for the fungus is found underneath that layer. Secondly, a preparation for destroying the fungus, as iodine or resorcin, is used in combination or separately.

On the scalp, ringworm must be differentiated from favus, alopecia areata, and syphilitic alopecia. The small-spore ringworm infection of scalp causes the rather large circumscribed areas of partial baldness, presenting many broken off hairs and covered with grayish scales with evidence of inflammation.

Alopecia areata may present the same sized circumscribed areas, but these are devoid of hair and there is no evidence of inflammation.

In the large-spore ringworm infection of the scalp the patches are more numerous, smaller and more irregular in outline, and sometimes resemble the moth-eaten type of alopecia occasionally seen during the secondary phase of syphilis. Ringworm of the scalp occurs very rarely after the age of puberty, and if there is any doubt clinically, the diagnosis can always be confirmed by finding the spores in hair specimens which are properly prepared for microscopical examination. If ringworm infection of the scalp does not respond satisfactorily to medical treatment, then the hair of the entire scalp should be epilated by x-ray after the method of McKee.

On the body, ringworm may resemble lesions of seborrheic dermatitis, as well as those of pityriasis rosea, as any of these diseases may present circinate or oval erythematous scaly lesions; clinically the character of the scale, the distribution, the presence or absence of other foci of infection, as well as the subjective symptoms all aid in making a differential diagnosis. In new untreated lesions of ringworm, spores and mycelia can always be demonstrated microscopically. If one finds a case that does not respond satisfactorily to medical therapy, two-fifths of a skin erythema dose of unfiltered x-ray is usually sufficient to clear the skin.

Another Medical Marvel—Apparently they have been having a mad-dog scare in Connecticut—no, that's not what pleased me; it was the announcer who, in closing his description of certain regulations which had been adopted, stated that "Dogs may be left without muzzles for ten days after having been vaccinated against Rabbits."—*Springfield Union*.

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EDITORIALS

DOCTORS AND COMMUNITY CHESTS

What is here written is not intended to apply to that limited number of physicians and surgeons who have been so fortunate as to have amassed enough of the world's goods to be financially independent.

The thought in mind concerns the rights of physicians and surgeons who have not been so financially fortunate, but who, because of the large amount of charitable work which they daily do in their practice of the healing art, should in one sense be exempt from these extra money contributions to other charities and philanthropies, no matter how deserving these other altruistic endeavors may be.

Consistency and equity would seem to make logical and fair, the principle just outlined. The proposition could also be expressed as follows:

If physicians and surgeons, in the practice of their profession do as much, and often a great deal more than the great majority of their lay fellow citizens, so far as altruistic expression of service to unfortunate lay fellows is concerned, then would it not be fair to excuse them from money contributions in addition? It must be remembered that professional services are the equivalent of money, in other words, are payment "in kind."

* * *

Historically, it is interesting to note that those who have been marked off from their fellows as healers or physicians, from the beginning of time, have ever been loyal to the principle of service to unfortunate fellows, without regard to pecuniary

reward, and in far greater degree, in all probability, than any other mercantile, vocational or professional group.

The ancient Oath of Hippocrates breathes the spirit of this altruistic service. It shows itself to an extraordinary degree in our own day of material aggrandizement, when research men among us give to the world without any pecuniary benefit to themselves, the results of years of study and labor, in order that the lot of man on earth may be bettered, through measures which make for the preservation of man's health, and for his prolongation of life.

Take another example: Throughout the civilized world, wherever there are buildings or hospitals in which are housed large numbers of human beings afflicted by disease and injury, in conjunction with poverty, may be almost invariably found a group of physicians and surgeons giving skilled service, often on a purely gratuitous service or at extremely nominal compensation.

Again, in our own country and abroad, in thousands and thousands of doctors' offices and consultation rooms, there is a daily unostentatious exhibition of service, in aid and relief of unfortunate fellows who are afflicted by disease, injury and poverty, and here again such skilled service is rendered without return money compensation being expected or received.

It is granted that compensation often does come to the physician in such instances, through knowledge of the appreciation of the poverty-stricken patient, for the skilled aid so cheerfully and generously given. But the prosperous citizen outside, who also ought to be appreciative of this altruistic endeavor on the part of hosts of physicians and surgeons, these more prosperous citizens seem oblivious and indifferent thereto. Not only that, many of those often seem to think that physicians are obligated to do these things; and on top of it all, expect physicians to help support other charities, to which measured by the same standards, when the professional services are transposed into money values, their own contributions in comparison, might be termed most gingerly.

* * *

To cite a further example which would seem to be pertinent to this discussion:

The county hospitals of California present an excellent example of self-sacrificing and nonpecuniary professional service by physicians to those citizens of our state who are so unfortunate as to be handicapped at one and the same time by poverty, sickness or injury. The Los Angeles General Hospital is a good example. There is an institution of over one thousand beds, with an attending staff of local physicians and surgeons running in the neighborhood of two hundred. Without regard to the number of patients or of individual treatments, but on the basis of something like ten dollars per hour for professional services actually given, and an average fee of something like fifty dollars for a major operation, it has been computed that these two hundred attending physicians and surgeons donate to the rich county of Los Angeles, services which, at the above valuations, would run into the

stupendous sum of five hundred thousand dollars a year!

These services are often accepted by the citizens who are inmates of the institution, with gratitude for the comfort that restoration of health or saving of life means, even though many are unaware that the attending staff members donate their services.

It may be said also that the lay press of Los Angeles County has given and gives or makes little or no comment on this tremendous donation. By contrast, any donation for charitable and philanthropic purposes amounting to five hundred dollars and up, as a rule can find place for such publicity in the newspapers. If any single, or a group of lay citizens, gave fifty thousand dollars and up to the city for charitable purposes, the lay press without question would give very much publicity to the generous thought of these lay fellows. But the medical profession in Los Angeles County, through its colleagues on the attending staff, in that one single institution alone give something like five hundred thousand dollars worth of services, and hardly receives a "thank you." For year after year can be remembered when no such thanks were given, and when no particular mention or money valuation of services, was made in the reports that again and again were not even printed, because the rich county of Los Angeles was presumably too poor to spend money for the publication and distribution of a report of what the county hospital doctors were doing! Is it any wonder that many of the laity look upon doctors as somewhat peculiar individuals?

In other hospitals, and in clinics for ambulatory patients, and in a big majority of the offices of ethical physicians in private practice throughout this great state of California, gratuitous services along similar lines are constantly being given.

* * *

With such facts covering a long period of years, staring our authorities and lay citizens and organizations squarely in the face, it is surely no improper contention, that medical men who give so much gratuitous service in such generous measure might well be left off the follow-up solicitation and other lists, of those from whom money donations for general charities could be properly expected.

But what is the practice, and what is apt to happen?

When the time for a community chest campaign rolls around, the names of most of the ethical physicians of a community are distributed among the transient lay solicitors (who are doing their bit for charity) and who make the rounds of office buildings to secure donations for the chest.

Now there is no thought in these lines to in any way criticize the good intentions or the good results of a community chest organization and drive, because all who have had experience with administrative work in charitable and philanthropic projects know how necessary it is to keep down to a minimum the wastage of funds and efforts that comes from overlapping, or from haphazard, spasmodic altruistic endeavors. Community chests are splendid institutions, and should be supported, but the contention can surely be made that in seeking for

charities the necessary money support, the names of most physicians should be omitted from the solicitation lists. Chest managers can very easily obtain the names of attending staffs of hospitals, clinics and so on, to find out who among them were particularly giving generous thought and care to the poor who are sick and injured, and physicians who do their full share of practice for the poor should feel free to so state to chest and other charity solicitors.

* * *

This whole subject of charity money donation, in addition to service donation, is one that is intimately connected with medical economics. Physicians do themselves an injustice when they do not analyze the economic and social service factors that are involved, in order to properly outline for themselves a proper mode of action. As stated at the outset, the lines here written are not intended to keep any physician who so desires from giving money donations to charitable and philanthropic organizations and institutions, and particularly would not absolve that comparatively few of our number who are blessed with more than average financial means from doing their part, but for that very large number of practitioners who do their work from day to day in efficient fashion, and who, without blare of trumpets, donate a goodly portion of their best thought and energy to alleviate the suffering of unfortunate citizens, for such these words are written, in the hope of helping to protect them from well-meaning but not quite fair or equitable requests.

If the services we generously give to the unfortunate poor, are worthy services, then both we and the recipients should respect them. If we ourselves do not respect these services, we may rest assured, the remainder of the world will not. We will properly respect these services when we kindly and modestly but firmly acquaint the world in regard thereto. The world, in the last analysis means to be just and decently appreciative. If we give our lay citizens a proper opportunity to know of our own work, these lay citizens will of themselves conclude that we should not be asked to do more than our fair share.

A PUBLIC HEALTH INSTITUTE

Under the name "Public Health Institute" the county of Los Angeles recently had a first experience with a course of lectures on public health topics. By contrast, San Francisco, an older community from the standpoint of American civilization, has been for many years somewhat more fortunate, because for years its medical schools and its academy have brought notable medical men from other parts of our country and from abroad to give presentations of viewpoints on public health and medical problems, to both physicians and laymen.

At Los Angeles the effort referred to was made possibly largely through the Los Angeles County Health Department, its county health officer, Dr. J. L. Pomeroy, taking the initiative in the matter. The Public Health Institute was most fortunate in being able to induce so prominent an international authority on public health matters as Professor

C. E. A. Winslow, Lauder Professor of Public Health at Yale Medical School, to come to the Pacific Coast and take its practical leadership. The scope of the institute's work was outlined in the June number of this Journal, pages 818-819.

The folio of press clippings from the Los Angeles city papers, on the topics discussed in the lectures made a most commendable showing. News items, editorials and cartoons, all entered into the newspaper presentation of what was taking place in the county hall building. It was the kind of publicity medical men often talk about as being necessary, if the laity is to be given a proper understanding of health topics, but which is so rarely realized.

It would have been difficult to have found a speaker better fitted to give a broader orientation of public health problems than Professor Winslow of Yale. His long record of achievement in the United States Public Health Association, in special works where he has been called in as an expert, and his broad knowledge, scholarly attitude and gracious personality, from his opening talk, endeared him to the audiences in both the technical and the lay courses. His work entitles him to a return engagement to California, and at some future time it is to be hoped the California Medical Association will avail itself of his presence and viewpoints.

In our county and state medical associations we talk much of educating the public into a proper understanding of public health problems and their solution, but often permit our efforts to die with this expression of intent. It is extremely difficult to present some public health matters without getting into the domain of clinical or curative medicine. In our time, a discussion of curative medicine has, and often still means a basis for sectarian controversy on matters of healing, in which the ethical medical profession not infrequently seems to come out second best, because it refuses to resort to undignified methods of publicity. It required, therefore, forethought and considerable astuteness to carry through a series of lectures on public health matters without doing as much damage as good.

This Los Angeles Institute is mentioned editorially, primarily to call the attention of county medical societies in California to the institute's aims and accomplishments, so that in other communities, members of the medical profession who are interested might perhaps be tempted to bring about a better education of the lay portion of the community, on health matters that are of mutual interest to physicians and laity.

Nowadays, with all the blatant exploitation of cultism in its variegated forms, there is need of the ethical medical profession visualizing the psychological atmosphere of the people who make up our communities and state. If we can create such a proper visualization for ourselves and will then proceed to act, there need be little doubt that the great mass of lay citizens will be most happy to give to properly trained physicians and surgeons a full meed of recognition, praise and support in all sane health measures intended to bring about an improvement in community health. If we do not make such a proper visualization for ourselves, and do

our part, then we may rest assured that the laity will misunderstand and misinterpret us and our motives, and will be very prone to listen to and believe that faddists and misguided individuals who talk about so absurd a straw man as the "A. M. A. Trust," for instance, are speaking the truth instead of uttering a mass of ridiculous nonsense and lies.

Public health work is with us and is surging forward in amazing manner. Physicians have given it much of the foundation through their researches and their cooperation; and as pioneers and as co-workers, have given a vast amount of aid in all efforts to prevent disease, and to create environments conducive to good health and prolongation of life. We must not permit the honor that is ours by virtue of our past work, to be taken from us; and particularly we must not permit the leadership in this work which we have earned, and which logically belongs to our profession, to be taken from us by lay executives and others, who, many of them, until they began to draw down salaries for such work, knew little or nothing concerning it.

The ethical medical profession ever has been, and still is loyal to the traditions of service in the fields of both clinical and public health medicine. If its members are wise, they will keep up their interest in both important fields, and through an efficiency superior to that which can be acquired by those of lesser knowledge and training, will maintain their leadership, to the benefit of individual patients and to communities as well.

SHOULD PUBLIC HEALTH BOARDS BE COMPOSED OF LAYMEN OR OF PHYSICIANS?

The physician who officiates as a public health officer must deal with disease from a somewhat different standpoint than that of the private physician. The private physician is called in by a citizen who requests professional care, and who hopes for or expects cure of this, that or the other disease which is interfering with his, the citizen's, usefulness or comfort. The public health physician, on the other hand, has his work assigned to him by many physicians, usually a community, acting through its executive officials.

While the work of the private physician deals largely with his individual patients, the work of the public health officer physician has particularly to do with the general health interests of all citizens in his district, and deals especially with sanitary engineering, bacteriologic, epidemiologic and social service activities.

When a community's population runs into the thousands and thousands, such a public health officer physician finds it convenient to have an advisory board with which he can consult on matters of fundamental policy in his department. He is, as a matter of fact, a sort of an executive with a cabinet, only the cabinet members are usually not of his own choosing. Such health boards or cabinets, came into existence in the beginning, because public health officials and the communities alike felt that on certain matters in which the interests of citizens at large were apt to be affected, it would not be a

bad plan to have a group rather than a single man's viewpoint. When the executive officer and the advisory board members are all high type men, the results obtained in a department so managed, should be better than if the entire responsibility was lodged on the shoulders of one individual.

In the past, many of such advisory health boards have been composed entirely of physicians; or if not, then usually with a majority of physicians composing the membership. With the advent of new schools of medicine, the distribution has sometimes included physicians of different schools of the healing art. The work which has been done by such conjoint boards has in many instances been very creditable.

It occasioned some surprise, therefore, when a Los Angeles newspaper recently stated that its city health officer had gone on record as favoring a health board of five laymen to be appointed by the mayor, to act as his immediate advisors on matters of health and sanitation; with a health advisory board of twelve physicians who would presumably give more remote advice to this regular health board of laymen. In the last analysis in such a plan, the lay health board, in conjunction with the health officer, would have the final or real authority as to what should or should not be done in solving the community health problems.

The institution of such a lay health board would certainly seem to be somewhat of an innovation. Whether it would be an innovation for good or for ill, would be dependent largely upon the character, capacity and mutual good will of the men involved, namely, the health officer, the members of the lay health board of five, and of the medical advisory board of twelve. Whether this medical advisory board was to be divided among the so-called regulars, homeopaths, eclectics, chiropractors, naturopaths and others, to add to the further complications of the remote advice, was not stated.

This editorial comment is given because this proposed change seems to mark a somewhat important departure in methods of procedure as regards public health office management in a large city. Whether or not the proposed system is one that would ultimately work out as a desirable change generally, is however, a question. Our experience with advisory boards that have no real authority, has been that they are largely figure-head propositions. If such a medical advisory board should become a figure-head proposition, would it be to the advantage of organized medicine, as represented by ethical practitioners, to have much to do with the system? Should we as ethical physicians, permit the name of our particular group of the healing art to bear part of the responsibility, or at least receive the onus of mistakes of procedure, when we are not permitted to have any of the authority that would permit us to promulgate and work for the execution of those public health measures in which, because of our training, we as a group believe? These and other questions of similar import come to our mind in a consideration of this proposed innovation. It will be interesting to note how the plan works out, if it is put into operation.

PROPOSED AMENDMENTS TO THE CONSTITUTION AND BY-LAWS OF THE C. M. A.

At the fifty-sixth annual session of the California Medical Association, held at Los Angeles, a special committee on revision of the constitution and by-laws brought in its tentative report to the House of Delegates. The present constitution and by-laws provide that all proposed amendments must be printed in CALIFORNIA AND WESTERN MEDICINE, and in the observance of this rule the various amendments that were presented at Los Angeles by the special committee, by the counsel of the association, and by individual members of the association, are printed on subsequent pages of CALIFORNIA AND WESTERN MEDICINE. At the same time the present constitution and by-laws has been reprinted. This has been deemed desirable, because there are only six copies or so of the present constitution and by-laws at hand. The consideration of proposed amendments made it desirable that the rules now in force should be obtainable by all members interested, if the best judgment was to be used in making changes.

The special committee on revision will continue its work, and from these various proposed amendments, will present to the Council of the Association a final draft of a complete constitution and by-laws; so that the members of the House of Delegates at the Sacramento meeting may have a foundation upon which to base their labors. A proposed amendment that is in the nature of an enabling clause, was submitted at the Los Angeles meeting, and if this is adopted at the Sacramento meeting, it will be possible for the House of Delegates at the fifty-seventh annual session, to practically act as a constitutional convention, with full authority to work out those rules of government, which in the experience of our own and other state medical associations, and of our own special geographical and social environments, would seem best adapted to the needs of the California Medical Association.

Value of a Poem by a Lunatic—A copy of a poem which was written in a lunatic asylum fetched 590 pounds sterling at the sale of the Britwell library recently, says the *New York Times*. It was "A Song of David," inscribed by Christopher Smart when he was immured in Bethlehem Hospital, "partly with charcoal on the walls or indented with a key on the panels of his cell," because writing materials were forbidden to him. Browning and Rossetti considered this poem to rank with the highest achievements of Milton or Keats. Doctor Johnson always held that Smart ought not to have been shut up. His comment was: "Smart insisted on people praying with him—also falling on his knees and saying prayers in the street or any other unusual place, but I would as lief pray with Kid Smart as anyone else. Another charge was that he did not love clean linen, and I have no passion for it."—*M. J. and Record*.

Diphtheria Immunization—A letter from Dr. Ralph Sheldon, health officer of Lyons, Wayne County, states that over 1400 or 98 per cent of the children in that village have been immunized against diphtheria in the past four years. At a recent clinic 258 children received the third dose of toxin-antitoxin, ninety-nine being of preschool age.—New York State Department of Health.

MEDICINE TODAY

Current comment on medical progress, discussion of selected topics from recent books or periodic literature, by contributing editors.

Otorhinolaryngology

Disease of the Nasal Accessory Sinuses—The increased interest in the nasal accessory sinuses that has developed in recent years is continually bringing to light new data in reference to them. King, in the March issue of the *Journal of Otolaryngology*, points out the fact that chronic pathological changes may be present in the antra without marked signs in the nose. That undoubtedly is true; at least, there are times during the course of a chronic maxillary sinus involvement, when no suspicion of the pathological changes present would be obtained by inspection of the nasal cavities. This is also true in chronic involvement of the other sinuses, except, perhaps, the ethmoid cells. If this observation is correct, it is apparent that negative findings on inspection of the nasal cavities are insufficient to rule out pathological changes of the sinuses. On the other hand, it is also true that marked swelling of the turbinates and profuse mucus or mucopurulent discharge may be present, giving the intranasal appearance of accessory sinus involvement, when the x-ray will show them very clear. It is difficult to understand how the sinuses can all be so clear when the intranasal pathology is so marked, yet it is quite frequently so, especially in acute cases. Again, transillumination and x-ray will show the antra very cloudy, when irrigation will return no discharge.

Just why all this cloudiness in the x-ray of some sinuses is a question. It may be due to thickened membrane following an old chronic sinusitis or the bone of the sinus wall becoming more dense as the result of some long continued but now quiescent inflammatory process that has healed.

The maxillary sinuses are all fairly uniform in size. The frontal sinuses, however, vary greatly in size and shape, not only in different individuals, but on the two sides. For this reason, transillumination is quite unsatisfactory with these sinuses, unless both frontals transilluminate clearly. The maxillary sinuses transilluminate well.

Transillumination of the ethmoids is very unsatisfactory, and of the sphenoids is out of the question.

We believe that the frontal and maxillary sinuses that transilluminate clearly are normal and all others are suspicious.

Transillumination might well be done as a routine, and then many unsuspected maxillary and frontal sinus cases will be picked up. Only too frequently are headache, eye pain, hay fever, asthma, pain in the ears, and "catarrh" caused by sinus involvement.

CLINTON A. BURROWS,
Los Angeles.

Respiratory Diseases

Common Colds—Why do so many colds occur every year in October and December and, to a less degree, throughout the winter months? If this question could be answered scientifically, prevention and treatment would materially reduce the heavy toll of sickness and death from complications.

One apparently well established cause is the drying effect of heated houses upon the nasal mucous membranes. One function of the upper respiratory tract is the warming and moistening of respired air. Most homes are overheated and have insufficient moisture added to their warmth. As a result the epithelium of the nose becomes dried, and thereby traumatized and congested, giving bacteria a fertile field for growth. The deleterious effect of cool drafts in a warm room is explained on the same basis—heat conservation over the body is regulated by vasoconstriction in cold air, and dilation in warm. When part of the body is exposed to a cold draft the vessels of the nasal mucous membrane automatically dilate, and this, in the presence of the warm air of the room, causes abnormal congestion.

This matter of congestion is more important than at first we might think. Rarely does disease develop merely from the presence of bacteria. Bacteria plus congestion spell disease.

The fact that those working largely in the open air—arctic explorers, woodsmen, etc.—rarely suffer from respiratory infection further emphasizes the danger of overheated homes. Statistics of the Metropolitan Life Insurance Company show four times as many colds among those employed in the sedentary occupations as among outdoor workers.

Another factor favoring nasal and throat congestion is the presence of chronic diseases in the sinuses, and improper aerating space in the nose. Deviated septa, hypertrophied turbinates, and a poor nasal space, the result of a high palate and poor dental alignment, should receive more attention. With a space naturally limited, slight variations in congestion, due to sudden changes of temperature from outdoors to superheated houses, or sudden climatic variations, provide a good medium for bacterial growth.

Much research has been carried on, in the search for some etiologic bacteria. Almost all types of staphylococcus, streptococcus, pneumococcus, etc., have been found in the nose and throat, both during acute disease and normal health, and with very little variation in the flora at these different times. A filterable virus has been applied to nasal mucous membranes with the development of coryza. Anaphylactic coryzas constitute another large group of so-called "colds." We seem no nearer to finding a microscopic cause.

The most that can be said as to why "colds" de-

velop during the winter, and especially in October and December, is that this is the season for artificial heating of homes, much of which is without the necessary increase in moisture. Fatigue, mental and physical, overeating, and larger gatherings of people during the holidays, explain the December exacerbations. Some bacterium or filterable virus, not yet definitely identified, takes advantage of these circumstances and the "common cold" develops.

PHILIP H. PIERSON,
San Francisco.

Physical Therapeutics

Physical Therapeutics — Deep Heat — Diathermy—New therapeutic measures must pass through a period of experimental and clinical study before their real worth is established. Some branches of physical therapeutics are now passing through this testing period. Much clinical study has already been done, but this alone leads to empiricism. The great need now is study of physics and physiological action, because every rational physical therapeutic prescription must be based upon these fundamentals.

Particularly welcome just now is the work of Bettman and Crohn¹ on the production of deep heat by diathermy. Their work appears to show that the rise of temperature in deep tissues, produced by the passage of the high frequency current, is negligible. We have ascribed the favorable results obtained by diathermy to an active hyperemia produced by its deep heating effect. The resistance offered by the tissues to the passage of the current gives rise to heat, which in turn causes an increased blood flow through the part.

Technique of application is of first importance in all branches of physical therapeutics. Effects are altered greatly by small variations in technique. For this reason it is important when reporting experimental work to be specific about the method of procedure. Bettman and Crohn have not been as definite as might be desired in stating their experimental factors. The dosage of diathermy should be specified in terms of milliamperes, duration of application, and size of electrodes. Unless this is done the work cannot be duplicated and verified by other investigators.

If diathermy does not produce deep heat we must search further for an explanation of the good results obtained by Stewart² in the treatment of pneumonia, by Corbus³ in the treatment of genitourinary diseases, and by Crile⁴ in the use of diathermy through the liver, during gall-bladder surgery. Diathermy apparently produces favorable clinical results, but how does it act?

Bettman and Crohn have started a work which should be of great value to physical therapeutics, especially if it stimulates others to similar investigations.

FRED B. MOOR,
Loma Linda.

1. R. B. Bettman and Nathan M. Crohn: J. A. M. A., Vol. 88, p. 532.

2. Stewart: Physiotherapy, 1925, Paul B. Hoeber, New York.

3. Corbus and O'Connor: Diathermy in the Treatment of Genitourinary Diseases, 1925, Bruce Publishing Company, St. Paul.

4. Crile: J. A. M. A., Vol. 87, p. 309.

Cardiovascular Disorders

Coronary Thrombosis—Coronary thrombosis is a frequent cause of sudden death. Patients who survive the immediate attack may die a few weeks later from rupture of the myocardium through the area of infarction. If death does not occur within several weeks the individual's subsequent activities are greatly restricted because of a badly damaged heart muscle. The mortality in this condition is about 65 per cent. Lambert¹ states that coronary thrombosis occurs in about one-fifth of those suffering from coronary endarteritis. Many so-called attacks of "angina pectoris" are in reality due to coronary thrombosis.

In a typical attack of occlusion of one or more branches of the coronary arteries the patient suffers intense substernal pain which may radiate to the left arm and left side of the neck, or to both arms. In many instances the pain is referred to the epigastrium or to the gall bladder region, giving rise to erroneous diagnoses of acute surgical conditions of the abdomen. Nausea and vomiting occur frequently; Libman and Sacks² state that "dizziness at times appears to be the equivalent of nausea and vomiting, in the hyposensitive, at least."

If death does not occur immediately the patient presents the picture of shock. The face is ashen gray, and covered with cold sweat. Marked dyspnoea is present, and cyanosis is observed in many cases. The pulse is feeble, rapid, and may be very irregular. The blood pressure is usually low. Among other signs of cardiac failure crackling rales at the bases of both lungs may be detected. A slight elevation in temperature sometimes occurs within twenty-four hours following the attack. Libman and Sacks² call attention to an early leukocytosis as an important diagnostic feature; this is practically always present, and may occur within two hours after the infarction of the myocardium takes place. A localized pericardial friction rub is often heard over the area in which the infarct occurs if the patient lives twenty-four hours or more. The liver may be tender and slightly enlarged. When available, the electrocardiogram is of the greatest importance in confirming the diagnosis of coronary thrombosis, especially in the atypical cases. Berman and Mason, in a paper to be published, show the value of electrocardiography as a diagnostic measure in this condition; in their patients autopsy confirmed the electrocardiographic diagnosis in every instance.

The importance of the diagnosis of coronary thrombosis must not be overlooked. The attacks may simulate acute surgical conditions of the abdomen, and the patient may be subjected to an unnecessary operation if the proper diagnosis is not made. In atypical cases the diagnosis is not easy, but when available the electrocardiogram will practically always lead to the correct diagnosis.

WILLIAM H. LEAKE,
Los Angeles.

1. Lambert, Alexander: American Heart Journal, 1926, Vol. 2, p. 28.

2. Libman, E., and Sacks, B.: American Heart Journal, 1927, Vol. 2, p. 321.

Dermatology and Syphilology

Skin Infections of Palms and Soles (Dermatomyces)—For several years manifestations of fungus infections of the hands and feet have been seen in increasing numbers of cases. Since the world war, these infections, like scabies, have become very common, approaching the proportions of an epidemic. The infecting agent is a yeast (most commonly a ringworm fungus, blastomycete, thrush or some other variety). The subject has become so important that it now occupies a prominent part in the program of all dermatological meetings. At the last American Dermatological Association meeting one session was devoted to full discussion of the question, and there are numerous articles on the same in the current literature.

The skin lesions are of various kinds. They all tend to be well circumscribed. In typical cases one sees on a palm or sole (or all four) groups of small, deeply seated, waxy vesicles. The tops of these vesicles washed in ether and soaked in potassium hydroxide solution or glacial acetic acid will reveal the presence of spores. Material planted on glucose agar and kept at room temperature will yield soon a typical cottony fungus growth. Often, instead of these pompholyx-like lesions, one sees roundish plaques or irregular patches resembling eczema. This condition is called "eczematoid ringworm." The fungus is found in scrapings from such lesions. The eruption may be acute, presenting a moist oozing surface with undermining of the bordering epidermis. Itching, which is sometimes quite severe, is usually present. Moist lesions sometimes seen on the webs of the fingers will often contain yeast organisms. Occasionally secondary infection occurs, resulting in lymphangitis and painful swelling of the regional lymph glands. The lesions may become dry and scaly like a chronic eczema. In the past there were doubtless many cases of epidermophytosis wrongly diagnosed as eczema. While the eruption is most common on the extremities, it is also seen on various parts of the body.

Often some finger and toe nails are involved, becoming dry and presenting underneath, crumbly material which tends to separate them from the nail bed at the borders. Yeast organisms also are now being found in tongue, buccal and genital mucus membrane lesions. Often an epidermophytosis of the internatal surface will be responsible for pruritus ani. Tinea cruris or "jock strap itch" is a common and well-known dermatosis.

These fungus infections are commonly picked up in gymnasia, golf clubs, Turkish baths or other places where people walk around in bare feet. Sometimes the laundry is responsible for infection. I know of one recent instance where an infected cat was found sleeping on a pile of recently laundered clothing. It has been contracted by nurses and physicians through direct contact with patients. Susceptibility varies greatly. Some individuals suffer frequent reinfections.

Treatment—It must be remembered first that the disease is apt to be very obstinate. In White's series of cases (*Archives of Dermatology and Syphilology*, Vol. 15, No. 4, p. 387-414, April, 1927) the duration of the disease before consultation

varied from six days to thirty years. In the greatest number of his cases it had existed from one to two years.

For prophylaxis one should always wear sterilizable sandals or wooden shoes while walking around in dressing and shower rooms of baths, athletic and golf clubs. Old socks, shoes and gloves that probably are infected should be destroyed. It is well to remember that handles of golf clubs and athletic clothes are found to harbor the infection.

One should endeavor to improve the patient's physical condition. Naturally indications will vary with the individual. Usually it will be found that a low sugar diet will help. These fungi grow well in a sugar medium.

There are various parasitocides that kill the infection, but they have to be used with care and the formulae varied to meet changing conditions. Iodin, mercurochrome, potassium permanganate silver salts, phenol, chrysarobin, thymol and oil of cinnamon are all recommended. White finds a 2 per cent aqueous solution of mercurochrome very useful. In some cases the foci are eradicated more readily by one of these agents than by another. Changing back and forth from one parasiticide to another may be necessary. The well known and popular Whitfield's ointment is helpful in most cases and occasionally is promptly curative, but it must not be used very long continuously. It usually consists of salicylic acid (6 per cent) and benzoic acid (12 per cent) in lanolin or vaseline. The proportions of these ingredients are varied from time to time. Sooner or later the condition assumes the characteristic picture of an eczema. Then the tars are very useful. Crude coal tar may act very effectively here, starting in with a 5 per cent ointment and increasing the strength gradually. Carefully administered Röntgen therapy and sometimes sun or quartz lamp exposures often give good results. There is a tendency often to over treat this disease, thus delaying recovery. Seldom is one's skill in dermatological therapeutics put to as severe a test as in the handling of these dermatomycoses.

HARRY E. ALDERSON,
San Francisco.

Poisons and Harmful Drugs Found in Some Cosmetics—The dangerous character of wood alcohol is so well established that it would appear almost incredible that anyone would dare offer a preparation containing wood alcohol for use on the human body. Wood alcohol is, however, but one of the many poisonous drugs that have been found in so-called cosmetics.

Of the potent drugs of a possibly harmful nature that are used in so-called hair restoratives, there are lead acetate, silver nitrate, paraphenylenediamine, and resorcin. The beauty washes and face enamels contain an even more impressive array of dangerously potent drugs including flake white or lead carbonate, lead plaster, corrosive sublimate or mercuric chloride, calomel, white precipitate or ammoniated mercury, pearl white or bismuth subnitrate, zinc white or zinc oxide, Chinese or commercial zinc oxide and zinc soap.

Flake white is the ordinary white lead of commerce. It is also known as body white, silver white, Dutch white, French white, London white, Roman white, and China white. It is generally recognized as the common cause of industrial lead poisoning.

It has also been observed that females are more susceptible to the action of metallic poisons than are males.—*United States Daily*.

STATE MEDICAL ASSOCIATIONS

CALIFORNIA MEDICAL ASSOCIATION

PERCY T. PHILLIPS.....President
WILLIAM H. KIGER.....President-Elect
T. HENSHAW KELLY.....Vice-President
EMMA W. POPE.....Secretary-Editor

OFFICIAL NOTICES

Proposed Amendments to the Constitution and By-Laws of California Medical Association—On subsequent pages in this August issue of CALIFORNIA AND WESTERN MEDICINE are printed the present Constitution and By-Laws of the California Medical Association. Also all amendments which were presented at the meetings of the House of Delegates at the fifty-sixth annual session, at Los Angeles, April 25-28, 1927. The present Constitution and By-Laws provide that all proposed amendments must be printed in the Journal before such can be acted upon at a succeeding annual session.

The special committee on revision of Constitution and By-Laws will draft from the present and the proposed amendments a composite, which will be considered by the Council, and which will be presented at the fifty-seventh annual session of the California Medical Association, at Sacramento.

COMPONENT COUNTY SOCIETIES

ORANGE COUNTY

The Association has completed the first half of another successful year.

In January the annual banquet was held at the Mission Inn in Fullerton. Dr. R. A. Cushman acted as Toastmaster for the occasion and called for talks from Drs. Bessie S. Martell, H. M. Robertson, F. E. Coulter and Mr. Thomas L. McFadden. An interesting number of entertainment features was scattered through the program. The evening was acclaimed most worth while by the large number of members in attendance.

The scientific meetings have all been well attended and the programs have been of the best. In February Dr. Paul E. Ferrier of Pasadena gave a very excellent paper on "Renal Tuberculosis." In March Dr. Orville N. Meland of the Albert Soiland Radiological Clinic gave a comprehensive talk on "Radiation Therapy in Benign and Malignant Conditions." In April Dr. Irwin C. Sutton of Hollywood ably reviewed "The Newer Methods of Treatment for Syphilis." In May we were entertained in a most delightful manner by our president, Dr. D. C. Cowles, and Mrs. Cowles at their home in Fullerton. Dr. Harland Shoemaker of Los Angeles, chairman of the Legislative Committee of the State Association gave a very interesting talk on the difficulties encountered and the work accomplished at the recent session of the Legislature. In June Dr. Robert W. Langley of Los Angeles gave an instructive discussion on "The Electro-cardiogram and Its Interpretation." We feel that the choice of speakers during this period had been most fortunate.

A new fifty thousand dollar wing is being added to the Orange County General Hospital, which will include needed bed space and clinic rooms. The first unit of the new Santa Ana Valley Hospital is about completed and will soon be occupied. These two projects will add very materially to hospital accommodations in the county.

An interesting work by Dr. C. D. Ball, one of the charter members of the society, was recently completed

with the publication of his "Orange County Medical History." The book is divided into three sections, the pioneer period, health organizations and hospitals of the county and the medical society. It is a valuable contribution to the historical literature of this section.

D. R. BALL, *Secretary*.

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SACRAMENTO COUNTY

Again, on June 21, the Medical Society gathered at the Community Hospital for what has proven to be the most successful of all the monthly meetings. With a wealth of clinical material, Dr. Dunlap and staff presented, approximately, twenty vitally interesting cases.

For the past several years any pathology of special interest has been photographed. Dunlap has had these made up into slides which were projected on the screen.

This is the type of evening where the greatest specialist of them all—the General Practitioner—may have a real "Field Day."

There were forty members in attendance, and all remained to enjoy the sumptuous banquet provided by the host.

BERT S. THOMAS, *Secretary*.

CHANGES IN MEMBERSHIP

New Members—Butte County—Leslie Freudenthal, Gridley.

San Diego County—William C. Cooke, San Diego; Priestley P. Osburn, El Cajon.

Santa Barbara County—Rodney F. Atsatt, Santa Barbara.

Stanislaus County—James A. Porter, Modesto.

Transferred Members—L. F. Luckie, from Fresno County to Oklahoma.

William M. Miller, from Sacramento County to Placer County.

DEATHS

Dillon, J. Marion. Died at Alhambra, June 28, 1927, age 52 years. Graduate St. Louis University, Missouri, 1906. Licensed in California, 1916. Doctor Dillon was a member of the Los Angeles County Medical Association, the California Medical Association, and Fellow of the the American Medical Association.

Hill, Merrill Washington. Died at San Francisco, May 30, 1927, age 77 years. Graduate of Hahn Medical College, Pennsylvania, 1871. Licensed in California, 1888. Doctor Hill was a member of the San Bernardino County Medical Society, the California Medical Association and the American Medical Association.

Rose, Emmason C. Died at Los Angeles, age 46 years. Graduate University and Bellevue Hospital Medical School, New York, 1904. Licensed in California, 1922. Doctor Rose was a member of the Los Angeles County Medical Association, the California Medical Association and the American Medical Association.

Rosenau, William Hellman. Died at Banning, June 21, 1927, age 30 years. Graduate of Johns Hopkins Medical School, 1921. Licensed in California, 1925. Doctor Rosenau was a member of the Riverside County Medical

Society, the California Medical Association and the American Medical Association.

Sanderson, Arthur J. Died at Santa Barbara, July 2, 1927, age 62 years. Graduate of Cooper Medical College, California, 1891. Licensed in 1895. Doctor Sanderson was a member of the Alameda County Medical Society, the California Medical Association, and Fellow of the American Medical Association.

IN MEMORIAM

Henry E. Southworth

When death takes from among us one of our fellows who was in his prime, and who seemed to be at the very height of his professional activity and service, the reason of such a loss is always difficult to understand.

So when death took Henry E. Southworth of Los Angeles on April 29, 1927, at the age of 54, it removed from the California Medical Association a member whose professional work had reflected distinct credit upon our organization.

Doctor Southworth was a graduate of Cooper Medical College, class of 1900. For years he had been on the general surgery staff of the Los Angeles General Hospital as one of its senior surgeons. For years also he had acted as the assistant medical director of the Industrial Accident Commission.

Doctor Southworth was of a modest, unassuming nature. Friends and patients alike loved him for his gentleness of thought, his honesty, his ability and his willingness and desire to be of the greatest possible service.

His loss is keenly felt by all who knew him.

UTAH STATE MEDICAL ASSOCIATION

W. R. CALDERWOOD, Salt Lake.....President
E. H. SMITH, Ogden.....President-Elect
FRANK B. STEELE, Salt Lake.....Secretary
J. U. GIESY, 701 Medical Arts Building, Salt Lake.....Associate Editor for Utah

SLOW HASTE

In these days when speed and yet more speed seems to have become almost a mania with the race, and we live in a figurative sense at least "with our foot on the gas," the demand for haste in the practice of our profession is a thing which more and more the profession is called upon to combat. In the parlance of the streets, our patients exhibit more and more an impatience, and insist that we "make it snappy" regardless of rhyme or reason as applying to the case.

With the animation and pep of a *hors de combat* automobile limping into a garage, they present themselves in the office and with utter sang froid admit that it has been an indefinite time since they had their physical engine overhauled. Having spent by their own admission months or years as the case may be in getting into their present condition, they seek to insist that we put them back into a state approaching the normal in so far as sensation at least is concerned in a minimum of days. But—

What we formerly spoke of as the "*vis mediatrix naturae*" the medical force of nature—is one of the few things which even in this present day of ours, still continues at its former rate of speed. It's geared to a certain ratio, and that's all there is to it,

save that it is a thing of which the doctor must and the patient does not wish to take heed.

Yet it is a most amazing force, capable of producing the most at times surprising and gratifying results. We fancy that about 80 per cent of our patients would be cured by it alone if they would be content to give it a chance. In reality it is the one element in his work upon which the physician relies most. That haste makes waste is as true in our profession as in any other walk of life. And the ideals, the objectives of the profession, have not changed any more than the "curative" force of life. Still the welfare of the patient is or should be the main purpose of our work. Hence what was once termed politically "watchful waiting" is a very excellent policy still. Admitting that it is one which may frequently evoke criticism of an unkind and largely unthinking type, it is still a procedure which will frequently give by far the best end results. It must be regulated by intelligence, of course, with a readiness for whatever intervention is needed, should the need arise. But what we are aiming to stress is the masterfulness of non-intervention—unless the need for intervention should actually arise—the policy of making haste slowly—the necessity on the part of the doctor in this age of hurry, hurry—to avoid being led into a course of undue haste. An impatient patient is a hard patient to handle, an unpleasant one to combat. And yet—so many, many, many times in the years which have passed since we were first authorized to call ourselves a physician, we have seen the "curative force of life" perform its miracles of healing in coordination with the doctor who was wise enough, brave enough, steadfast and sincere enough to insist upon working with it, that we have come to feel that slow haste is the actual mark of the veteran in the profession—a sort of service stripe if you will, to show his experience in his art. And so this is a plea for insistence upon—time for diagnosis—time for an evaluation of the case—time for treatment plus the curative life force to bring results, on the part of the physician, combined with an instant readiness for whatsoever intervention, if any, may be required. Nowadays patients appear to need "slowing down" about as much as anything else.

Report of the Meetings of the House of Delegates, Held in the Auditorium of Medical Arts Building, Salt Lake City, Utah, June 23 to June 25, inclusive, 1927.

June 23, 1927, Meeting, Held at 12 Noon

Meeting called to order by the president, W. R. Calderwood, Salt Lake City; F. B. Steele, secretary.

The secretary called the roll of the House of Delegates and declared a quorum present.

Reading of minutes of last annual meeting was dispensed with, inasmuch as they had been published in *JOURNAL—CALIFORNIA AND WESTERN MEDICINE*.

The president appointed the following a Reference Committee: W. R. Tyndale, chairman; Robert T. Jellison and C. L. Shields.

REPORT OF THE SECRETARY

To the Members of the House of Delegates of the Utah State Medical Association:—I have the honor to submit the following report for the year 1926-27:

Membership—We come to this annual meeting of the House of Delegates with a greater paid-up membership than ever before in the history of the association. This

is due chiefly to the increase in membership in Salt Lake, Weber and Utah counties. The membership of the association, tabulated and compared with the membership at the time of our last annual meeting, is as follows:

| | 1927 | 1926 | Loss or Gain |
|------------------|------|------|--------------|
| Box Elder County | 8 | 8 | 0 |
| Cache Valley | 16 | 14 | 2 |
| Carbon County | 15 | 15 | 0 |
| Salt Lake County | 234 | 218 | 16 |
| Uintah County | 6 | 7 | 1 |
| Utah County | 42 | 30 | 12 |
| Weber County | 49 | 46 | 3 |
| | 370 | 338 | 32 |

Notwithstanding this apparently satisfactory condition, there are many eligible physicians in the state who are not members of any medical society. There are likewise quite a number who were formerly members of this association who are not now on our roll. I recently received a communication from the office of the secretary of the American Medical Association, containing a list of thirty-three names, members last year, who have not affiliated this year. Many of these, however, will come in later in the year.

Deaths—The hand of death has been laid heavily on our association since our last gathering together. The following members have responded to their last call:

From Salt Lake County—S. H. Pinkerton, June 19, 1926; S. H. Allen, August 30, 1926; R. W. Fisher, January 16, 1927; W. S. Ellerbeck, February 17, 1927; Warren Benjamin, April 30, 1927.

From Utah County—J. J. Steiner, July 20, 1926.

From Weber County—E. M. Conroy, August 12, 1926; Le Roy Ballentyne, March 23, 1927.

More extended notice of these losses will be given by the Committee on Necrology.

Official Visits—Early in his administration, President Calderwood caused invitations to be issued to the component societies for suggestions as to opportune times for official visits. Response was received from two societies.

On Wednesday evening, December 8, the officers and Council visited Utah County Medical Society. A splendid program was given and the officers were delightfully entertained. Dinner was served at the Roberts Hotel. The society showed every evidence of healthy activity.

On December 9, the officers and Council visited Weber County Medical Society on the occasion of their installation of officers and annual dinner. This function was held at the Weber Club and was characterized by the usual lavish hospitality for which the Ogden physicians are well known.

Constitution and By-Laws—At the 1925 session of the American Medical Association was reported the draft of a Constitution and By-Laws thought to be suitable for adoption by constituent state associations. This matter was referred by former President Gibbons to a committee which reported the same, with modifications, to the house one year ago. It is desirable that there shall be uniformity as to basic provisions of our laws.

A year ago your secretary urgently recommended the consideration by this body of the question of Periodic Examination of the Apparently Well. This procedure is rapidly making progress in other jurisdictions, and it seems to me that it is of outstanding importance.

I would likewise earnestly suggest that this body give prayerful attention to the matter of bringing into the fold of organized medicine the very considerable percentage of eligible physicians in the state who are not now in any way affiliated. There are about 520 physicians practicing in this state; there are 370 on our rolls.

Conclusion—Your secretary desires to offer grateful acknowledgment and to express his sincere appreciation for the courtesies and kindly co-operation received from the officers and members of the association.

F. B. STEELE,
Secretary.

Report of the secretary referred to the Reference Committee.

REPORT OF THE TREASURER

Utah State Medical Association

For the period of May 6, 1926, to June 22, 1927

Receipts—

| | |
|---|------------|
| Cash in National Copper Bank Checking Account on May 6, 1926 | \$3,911.24 |
| Dues of members received from the component County Medical Societies: | |
| Salt Lake County Medical Society | \$1,229.20 |
| Box Elder County Medical Society | 40.00 |
| Cache County Medical Society..... | 80.00 |
| Carbon County Medical Society..... | 110.00 |
| Uintah County Medical Society..... | 30.00 |
| Utah County Medical Society..... | 255.00 |
| Weber County Medical Society..... | 275.00 |

| | | |
|----------------------------------|------------|------------|
| | \$2,019.20 | \$2,019.20 |
| From Postgraduate Committee..... | | 460.00 |
| Total Receipts | | \$6,290.44 |

Disbursements—

| | |
|--|----------|
| Expenses incident to the thirty-second annual meeting, May 6, 7 and 8, 1926: | |
| Entertainment of guests, hotel bills, use of baloptican and operator, and clerical service.... | \$238.25 |
| Expense of the 1926 postgraduate course, August 23, 24 and 25, 1926: | |
| Expenses of Dr. Warfield T. Longcope | \$208.75 |
| Hotel Utah bill | 20.55 |
| Stenographic service | 32.08 |
| Telegrams | 20.60 |
| Clerk | 6.00 |
| | \$287.98 |

| | |
|--|--------|
| Expense allowance of delegate to American Medical Association | 150.00 |
| Subscriptions to CALIFORNIA AND WESTERN MEDICINE, at \$2.00 per member | 708.00 |
| Salary of the treasurer, at \$25.00 per annum.... | 25.00 |
| Fidelity bond of the treasurer, yearly premium | 2.50 |
| Salary of the secretary, at \$250.00 per annum | 250.00 |
| Allowance for an Amanuensis for the secretary, at \$10 per month | 160.00 |
| American Medical Directory (tenth edition) .. | 12.00 |
| Floral offerings for deceased members | 20.00 |
| Net proceeds of 1926 postgraduate course to Harlow Brooks fund | 172.02 |
| Printing, binding, stationery, etc. | 134.02 |
| Net proceeds of 1925 postgraduate course to Harlow Brooks fund | 928.47 |
| Stenographic service and telephoning | 107.07 |
| Bill of Dr. Rowntree of 1925 Logan meeting .. | 4.25 |

| | |
|--|------------|
| Total Disbursements | \$3,199.09 |
| Balance of receipts over disbursements | \$3,190.88 |
| Savings Account—Amount in National Copper Bank Savings Account No. 18973 (May 6, 1926) | \$1,515.92 |
| Net proceeds from 1925 postgraduate course | \$928.47 |
| Net proceeds from 1926 postgraduate course (December 24, 1926) | 172.02 |
| October 1, 1926, interest on savings account (12-24-26) | 42.75 |
| April 1, 1927, interest on savings account (6-17-27) | 51.64 |
| May 15, 1926, bond coupons | 6.39 |
| November 15, 1926, bond coupons | 6.36 |
| May 15, 1927, bond coupons | 6.39 |
| | 1,214.02 |

\$2,729.94

I also carry for the association three \$100.00 bonds of the Second Liberty Loan, with coupons attached thereto from November, 1927, to November, 1942.

EDWARD D. LECOMPTE,
Treasurer.

After an informal discussion, the report of the treasurer was referred to the Reference Committee with the Council associated.

REPORT OF THE COUNCIL

Dr. E. T. Hughes resigned as Councilor from the third district. The Council appointed Dr. Joseph Hughes to fill the vacancy until this meeting of the House of Delegates.

The Council recommend the adoption of the Constitution and By-Laws suggested by the American Medical Association, with changes favored by our committee, which will meet the conditions of our organization.

There have been no troubles or discrepancies in any of our districts during the year, the Utah State Medical Association being in better financial and other standing at present than at any time in its history.

The Council suggests that a greater effort be made to have the committees more thoroughly organize and systematize the work of attending to and entertaining guests of our Association.

J. C. LANDENBERGER,
Chairman of the Council.

The report of the Council was referred to the Reference Committee.

REPORT OF THE DELEGATE TO THE AMERICAN MEDICAL ASSOCIATION

As your delegate to the American Medical Association, I beg to submit the following brief report:

The House of Delegates met four days. Lack of time will permit me to speak of only a few of the many interesting things which transpired at this meeting.

The House was called to order by the Speaker, Fred C. Warnhuis of Michigan. After receiving the report of the Credential Committee and sending a message of cordial greeting to the President of the United States, he delivered his official address. He deplored the fact that there is evidence of much "ill-advised, poor and unskilled surgery being done by undertrained and incompetent men." To remedy this he recommended and urged that proper action be taken to authorize the establishment of a commission of seven to study the question and submit a report at the session next year. He also regretted the fact that we have many substandard hospitals, in every state—institutions where much of the work done is mediocre. He recommended the State Medical Societies should cause their respective legislatures to pass laws outlining the administrative and staff requirements and to provide for supervisory inspection and control.

Wendell Phillips, in his presidential address, stressed and emphasized the fact that all public health policies and public health education should be controlled by physicians, as their training and experience make them the only persons capable of properly handling health problems. He also called attention to the recent opinion rendered by a majority of five to four of the judges of the Supreme Court, upholding the recent act of Congress limiting the amount of whiskey to one pint in ten days, that a physician can prescribe for a patient. The principle of a non-scientific body of law-makers passing laws restricting the amount of medicine a scientific physician may prescribe for his patient, was denounced, in no uncertain terms.

President-Elect, Jabez N. Jackson of Kansas City, spoke briefly, urging the American Medical Association to take the necessary measures to cause the Principles of Medical Ethics to be taught in every medical college. In his presidential address he stressed the great need of some means being provided whereby the middle classes can obtain hospital care without too great a burden. The poor are provided for in our charitable institutions and the rich can pay for their service, but the man with a small income must have help. He suggested that the rich partially endow a number of beds which may be used by this worthy class of patients.

Report of the Secretary—Secretary Olin West reported a new high mark, 93,882, in membership enrollment of about 140,000 physicians listed in the last directory. Of the 505 physicians listed in Utah, 369 are members of our State Society.

Trustees' Report—The Trustees reported 3720 new subscribers to the Journal, making a total of 90,312. The

sale of the advertising space amounted to \$798,059, which together with the subscriptions, make the income from the Journal considerable in excess of \$1,300,000.

The subscription list to the Hygea has increased to 50,575, which with the sale of advertising space made the gross income \$222,139.32. However, this amount was \$34,057.57 less than the cost of publication. In many of the states the Women's Auxiliaries have been active in extending the subscription list. Let this be a worthy suggestion for the Auxiliary of our state.

The Trustees also reported a growing interest in the subject of periodic health examination, as is shown by the sale of approximately 300,000 copies of the blanks. The Manual of Suggestions has been distributed to 65,000 physicians.

Bureau of Legal Medicine and Legislation—The bureau reported the revenue act of 1926 reduced the tax payable under the Harrison Narcotic Act, from \$5 per year to \$1.

On January 13, 1927, the Senate passed an act extending the Sheppard-Towner Maternity Law for two years, after amending the act so as to provide that the law should be void at the expiration of the period named. The House of Representatives accepted the Senate amendment and the President approved the act. Hence, the Sheppard-Towner Maternity Act will expire on June 30, 1929.

The Commissioner of Internal Revenue persists in his denial of the right of a physician to deduct, in the compilation of his income tax, expenses incurred in attending meetings of medical organizations.

Council on Physical Therapy—The Council on Physical Therapy which was established last year, for studying and standardizing equipment, reported much progress. Hospitals and physicians interested in this subject will find their council and advice very valuable.

Library—The work of the library has been greatly extended. The package library and the periodical lending service of the library has become very helpful and popular, especially for the doctors located in remote districts, who do not have access to large medical libraries.

The scientific exhibit has grown into a most instructive institution. This year the exhibit occupied one entire floor of the auditorium, where numerous clinical, pathological and microscopic specimens were shown.

Report of the Judicial Council—This report was most interesting, as the Council gave their opinion on two very important questions: contract practice and condition of membership. They divided the contract practice into two classes—the legal or good, and illegal or unethical. Legal contract practice is found in small communities, or mining camps, where it is necessary to make some sort of a contract in order to insure a compensation for the physician. Certain industrial situations arise where the companies are compelled by law to provide medical care for their employees.

Contract practice is unfair and unethical when: (1) Compensation received is inadequate, based on the usual fees paid for the same kind of service and class of people in the community; (2) when compensation is so low as to make it impossible for competent service to be rendered; (3) when there is underbidding by physicians in order to secure the contract; (4) when there is solicitation of patients, directly or indirectly.

At the present time the American Medical Association has no jurisdiction over its membership, as this function rests wholly with the component societies. The Judicial Council thought it wise to make some provisions whereby the Association could control its membership, but such a resolution was lost.

Report of the Council on Medical Education and Hospitals—The Council reported that the number of medical students enrolled has increased from 12,930 in 1919 to 19,432 at the present time. The supply of physicians in the United States is 133 for each 100,000 people, as compared with 92 in Great Britain, 77 in Switzerland, 73 in Japan, 35 in France and 28 in Sweden.

At the Dallas session a committee was appointed to investigate the need of establishing a home for indigent

physicians. George H. Simmons, chairman, reported that after a thorough investigation and due consideration, the committee found the need for a national home for incapacitated and indigent physicians is not sufficient to warrant the American Medical Association in establishing, managing and maintaining such a home.

Report of the Committee on Nurses and Nursing Education—At the Dallas session a resolution was passed requesting the Board of Trustees to appoint a committee to investigate the entire nursing problem, make a report and recommendations, with a view of increasing the number of nurses, improving the service at a decreased cost to the patient. This committee submitted a lengthy report, giving a survey of the entire nursing problem. Their chief suggestion is that the period of training should be twenty-eight months; the first four months to be devoted to concentrated study of fundamental anatomy, bacteriology, physiology, chemistry and dietetics, and the two succeeding years be devoted as far as possible to teaching the art of nursing by demonstration, participation and practice. The committee was continued and directed to consult with the national nurses' organizations and given an appropriation of \$5000 to continue their work and make definite recommendations at the next meeting.

Election of Officers and Meeting Place—The names of W. S. Thayer of Maryland, W. G. Morgan of the District of Columbia, and P. M. Marvel, Sr., of New Jersey, were presented for the office of President-Elect. W. S. Thayer was elected on the second ballot. C. A. Elliott of Illinois was nominated for Vice-President. Olin West was again chosen for the Secretary and Fred C. Warnshuis was re-elected Speaker of the House.

Two cities, Minneapolis and Kansas City, extended an invitation for the next meeting. The House of Delegates voted in favor of Minneapolis, providing the investigations of the Board of Trustees find meeting space and hotel accommodations ample.

E. M. NEHER,
Delegate.

The report of the delegate to the A. M. A. was referred to the Reference Committee.

On motion it was ordered that copies of the report of the delegate to the American Medical Association be furnished to each of the component societies to be read in regular session.

REPORT OF THE COMMITTEE ON SCIENTIFIC WORK

The Committee on Scientific Work had communicated with doctors in all the leading medical schools of the United States, in an effort to secure speakers for the program, the idea being to use outside talent for the speakers. As a result we secured the following men:

Dean Lewis, professor of surgery, Johns Hopkins University Medical School; Harold L. Amos, associate professor of medicine, Johns Hopkins University; Robert B. Osgood, professor of orthopedic surgery, Harvard University Medical School; Frank Hinman, professor of urology, University of California Medical School; T. Howard Plank of San Francisco, California; Henry W. Gibbons of San Francisco, California; E. Van Norman Emory, director of child's guidance clinic, Los Angeles, California, and Professor Reuben L. Hill of the Utah Agricultural College Experiment Station.

These speakers were secured, as stated, through correspondence, and the only expenses incurred were the local hotel bills and entertainment.

JOHN Z. BROWN,
Chairman.

The report on Scientific Work was ordered referred to the Reference Committee.

On motion a vote of thanks was extended to this committee for the services rendered.

REPORT OF THE COMMITTEE ON PUBLIC POLICY AND LEGISLATION

Your Committee on Public Policy and Legislation had quite a busy time while the legislature was in session.

We had frequent meetings and every member of the committee was active and awake to his duties.

This committee and a similar committee from the Salt Lake County Medical Society met jointly frequently, also the officers of the County and State Association met with us and gave us their advice and support.

We attended public hearings on various medical bills in both houses of the legislature.

Our methods of keeping posted was largely through the kindness of the offices of the State Board of Health and the Department of Registration. This necessitated frequent visits to these offices to obtain copies of the various bills that were introduced and other information.

I would like to recommend that the chairman of this committee in the future find some member of the legislature that is willing to place the chairman's name on the mailing list so that all bills and the daily transactions will be mailed direct every morning and thus avoid so many trips to the capitol. Such information coming promptly every morning would give an opportunity for immediate action and would keep the members of the committee in touch with all matters during the time the legislature is in session.

I should like to recommend further, while the legislature is in session, that a weekly bulletin embodying a digest of the various bills affecting the profession with recommendations for defeating or sponsoring such measures be prepared by the State Secretary and mailed to the Secretary of each component county society, giving the information and advice regarding pending legislation so that a united medical profession may use its influence in preserving high standards of education.

Attached hereto is a copy of a letter setting forth a synopsis of the various bills affecting the medical profession that came up before the last legislature.

The following resolution is submitted for your consideration.

M. L. RICH, *Chairman*,
C. A. CALLISTER,
FOSTER J. CURTIS.

RESOLUTION—*Be It Resolved* by the House of Delegates of the Utah State Medical Association that in order to safeguard the actions of the medical profession in their dealings with the National Prohibition Act and the Harrison Narcotic Act, the following principles are suggested, for enactment into law:

1. Adequate public notice shall be given, and opportunity afforded interested parties to be heard, by brief or orally, before any regulation is promulgated.
2. Any regulation promulgated shall be officially published so as to inform the interested public of that fact.
3. A reasonable time shall be allowed after the promulgation of any regulation before it becomes effective.
4. Authentic copies of all regulations shall be available at all times to persons requesting them.
5. All regulations promulgated shall be officially reported to Congress annually and be published in authentic form in the Statutes at Large or in some other proper, generally available form.
6. When Congress first convenes after the enactment of the proposed law all regulations in force shall be officially reported to Congress and shall be published in authentic form in the Statutes at Large in some proper and convenient form, so as to bring publication up to date.
7. To meet emergencies, the President may waive the time limits and proceedings normally required for the promulgation of regulations, so as to permit the promulgation immediately of regulations necessary to meet the situation, such regulations to remain in force until regulations can be promulgated in due course.

Synopsis of bills before last legislature (March 19, 1927):

The Utah State Legislature came to a close, and all medical legislative bills failed in passage with one exception.

House Bill No. 73, a Chiroprapist bill, which allowed Chiroprapists to treat all ailments of the human foot (ex-

cept amputation of the toes and foot), including such diseases as syphilis, diabetes, arthritis, etc., and other constitutional diseases passed the House. We succeeded in amending this bill in the committee of the Senate so it was not objectionable, but it failed to pass.

House Bill No. 61 also failed. This allowed the State Board of Health to examine institutions where the treatment of the sick was carried on and incurred an examining fee of \$25 and \$5 annually thereafter. Physicians objected to this bill and it was killed in the committee of the Senate.

House Bill No. 130, an Osteopaths' bill, which modified our present law and left out some definitions regarding Osteopaths and drugless healers, was killed in the sifting committee of the Senate after passing the House.

House Bill 122, which amended Section B 3112 of the Industrial Commission Act, which allowed drugless healers to practice as physicians and surgeons, after passing the House, was held up in the sifting committee of the Senate.

House Bill No. 109, which was aimed to abolish the Securities Commission, had behind it a man, who if he had been successful in carrying this bill thus would have established a corporation to treat the sick and bury the dead at so much per month, including an initiation fee.

House Bill No. 122, an Osteopathic bill, which gave Osteopaths the right to practice obstetrics under one license, successfully passed. It also defines Osteopathy. Our present law has been amended in favor of the Osteopath two or three times previous, so that this amendment does no harm. Osteopaths have had the right to practice obstetrics by taking the examination for midwives. This bill passed both House and Senate. It was introduced by Mr. Anderson and written by J. T. Hammond, head of the department of registration, and we finally withdrew our objections to the bill.

To sum up, the legislature this year did not pass any bills in favor of cults. Two or three such bills passed the House but were amended or lost in the sifting committee, or killed in the Senate.

WM. L. RICH.

Report of the Committee on Public Policy and Legislation ordered referred to the Reference Committee.

MEDICAL WELFARE AND ETHICS

As chairman of the Committee on Medical Welfare and Ethics I wish to report as follows:

Three matters have been brought before this committee during the past year.

First, in the case of L. J. Paul vs. W. L. Gardner, in which Doctor Paul claimed that Doctor Gardner was instrumental in having a person who had been committed to the insane asylum released, thereby endangering the professional standing of Doctor Paul, and possibly the lives of his immediate family.

Second, the charges of unprofessional conduct and unskillful practice in the matter of a surgical operation performed upon the wife of William Regar, who brought the action against A. C. Callister.

Third, the matter of investigation of contract practice in the state of Utah, particularly regarding the methods used by certain so-called welfare associations in furnishing medical and surgical service to companies and isolated communities under the management of men who are not physicians and who make a profit out of the acting physician's service.

You have here in your files complete reports of the first two cases.

In the matter of the third, or contract investigation, the doctors who started this action failed entirely to present the evidence which they claimed to have in the case, in fact, when asked to bring the same before the committee they never replied to the letters of request for same, so the matter was dropped because of lack of evidence.

It is recommended that this matter should again be taken up and evidence secured regarding this practice

which is detrimental to the public and a disgrace to the medical profession at large.

S. D. CALONGE.

Report of the Committee on Medical Welfare and Ethics ordered referred to the Reference Committee.

On motion the reception of further reports was discontinued until the next session of the House of Delegates, and the House adjourned to meet at 12 o'clock noon, on Thursday, June 24, 1927.

Thursday, June 24, 1927, 12 Noon

Meeting of the House of Delegates of the Utah State Medical Association.

Meeting called to order; President W. R. Calderwood presiding.

Roll call.

REPORT OF THE COMMITTEE ON NECROLOGY

Reporting deaths that have occurred in our ranks during the past year I have found to be very interesting work. I have found a certain amount of pleasure in coming in contact with widows and children of some of these—our fellow physicians. I find that during the past year eight of our associates have passed from out of our lives.

In Salt Lake County—S. H. Pinkerton, died June 19, 1926; S. H. Allen, died August 30, 1926; R. W. Fisher, died January 16, 1927; W. S. Ellerbeck, died February 17, 1927; W. Benjamin, died April 30, 1927. In Utah County—John J. Steiner, died July 20, 1926. In Weber County—E. M. Conroy, died August 12, 1926; LeRoy Ballentyne, died March 23, 1927.

I have received reports on all of these, with the exception of LeRoy Ballentyne, who was born March 6, 1877, and died March 23, 1927.

S. H. Pinkerton was born May 27, 1857, in New York City, New York, and died at Los Angeles, California, on June 19, 1926, of pernicious anemia.

Dr. Pinkerton was a graduate of the Bellevue Medical School, and held the position of chief surgeon for the Union Pacific Railroad System, at Salt Lake City, Utah.

I wish to say at this time that I have known Doctor Pinkerton for some fifteen years. Doctor Pinkerton was especially interested in the young graduate from school, in the young doctor just starting out. He tried in every way possible to give every assistance to these young men, giving them a start in the field of their profession. He was a very lovable, very congenial man, and one of the best surgeons in the West.

Samuel H. Allen was born August 15, 1862, at Mt. Pleasant, Utah, and died August 20, 1926, at Salt Lake City, Utah, of carcinoma of the head of the pancreas.

Doctor Allen was a graduate of the College of Physicians and Surgeons of Baltimore, Maryland. He was an interne for one year in the Baltimore Lying-in Hospital and was chief surgeon for the Denver, Rio Grande and Western Railway Company from the year 1893 to the year 1901, at Provo, Utah. He was a member of the staff of the Latter Day Saints' Hospital at Salt Lake City from 1904 to 1926, being a charter member and president of that institution. He was also charter member and president of the Intermountain Clinic.

Doctor Allen was a member of the Salt Lake County, and the Utah State Medical Association, a member of the American Medical Association and of the American Society for Study of Goiter.

Doctor Allen was a member of the Church of the Latter Day Saints of Jesus Christ; also a member of the Chamber of Commerce of Salt Lake City, Utah.

I have known Doctor Allen for a great many years; in fact, we were schoolmates at one time in the study of medicine. He was a very hard worker, and was very thorough and conscientious in his work.

R. W. Fisher was born October 10, 1863, on a farm in Sussex County, State of Delaware, and died January 16,

1927, at his home in Salt Lake City, Utah, of pneumonia.

Doctor Fisher was a graduate of the Philadelphia College of Pharmacy in 1887, of the Jefferson Medical College in 1890, also covered special courses at Harvard College.

Doctor Fisher was a member of the Salt Lake City Board of Health, was secretary and president of the Salt Lake County Medical Association, and was secretary of the Utah State Board of Medical Examiners, and was also a member of the staff of St. Mark's Hospital, at Salt Lake City, Utah. He filled the chair of Materia Medica and Pharmacy of the medical department of the University of Utah from 1899 to 1914.

He was commissioned captain of the medical reserve corps on June 15, 1917, at Jefferson Barracks, embarked for overseas on October 13, 1918, serving in France and received the rank of major on May 29, 1919.

He was a member of the Methodist Episcopal Church; was grand high priest of the Royal Arch Masons of Utah in 1921, a member of Argenta Lodge No. 3, F. & A. Masons, and a Knight Templar.

Doctor Fisher descended from patriotic stock, and was a member of the Sons of the American Revolution.

He was buried in Mt. Olivet cemetery, Salt Lake City, Utah, January 18, 1927, and is survived by his widow, Margaret F. Fisher, and four children.

W. S. Ellerbeck was born July 29, 1872, at Salt Lake City, Utah, and died February 17, 1927, at Salt Lake City, Utah, of acute dilation of the heart.

Doctor Ellerbeck was a graduate of the University of Pennsylvania, class of 1894.

Doctor Ellerbeck acted as secretary of the Utah State Medical Association, and the Salt Lake County Medical Society during the years 1903 to 1907.

He was a member of the Salt Lake County Society and of the Utah State Medical Association, also of the American Medical Association. He also at one time acted as house physician for the Cathcart Hospital at Devon, Pennsylvania.

Warren Benjamin was born February 5, 1872, at Rondout, Kingston, New York, and died April 30, 1927, at Salt Lake City, Utah, of chronic valvular disease of the heart—endocarditis.

Doctor Benjamin was a graduate of the University of New York and the Bellevue Hospital at New York City.

Doctor Benjamin held the position of chief surgeon for the Denver, Rio Grande and Western Railway Company for twenty-six years. He was also chief surgeon of the United States Fuel Company and the Utah Railway Company for ten years, also chief surgeon for the Order of Railway Trainmen and had other important positions.

He was associated in the Salt Lake County Medical Society, the Utah State Medical Association, a member of the American Medical Society; Fellow of the American College of Surgeons, a member of the Railway Surgeons' Association. Doctor Benjamin also held the privilege of following his profession in the states of New York and Colorado.

He also belonged to the Volunteer Medical Reserve Corps of the United States Army.

Doctor Benjamin was a member of the Baptist Church. He was a prominent lodge man, a member of the Watsch Lodge, F. & A. M. He was past commander of the Utah Commandery No. 1, Knights Templar; past grand commander, Knights Templar of Utah; past high priest, Chapter No. 1, R. & A. M.; past grand high priest of the R. A. M. of Utah; past master excellent master, R. & S. M. of Utah; past puissant sovereign St. Barnard Conclave No. 24, Red Cross of Constantine; past potentate, Elkalah Temple, Mystic Shrine, and a member of the Mizpah Chapter No. 5 of the O. E. S. of Utah.

Doctor Benjamin was honored and loved by all who knew him, young and old, rich and poor, regardless of color or creed. His life was a life of service.

John J. Steiner was born September 30, 1863, in Germany, and died July 19, 1926, at the Holy Cross Hospital, Salt Lake City, Utah, of abscess of the liver.

Doctor Steiner was a graduate of the St. Louis Medical College; University of Maryland, completed a postgraduate course at the Johns Hopkins University; postgrad-

uate of School of Medicine, Jefferson Medical College.

Doctor Steiner held the position of city physician of Richfield, Utah, and also was at one time county physician for Sevier County, Utah. He was a member of the American Medical Association, the Utah State Medical Association and a member of the American Institute of Homeopathy.

Doctor Steiner was president of the Richfield General Hospital and a member of the Richfield Commercial Club. He was a thirty-second degree Mason, a Shriner and a charter member of the Order of the Eastern Star.

During the World War Doctor Steiner was examining physician of the draft board and a member of the Council of Defense.

Edward M. Conroy was born October 24, 1857, at Conroy, Utah, and died August 13, 1926, at Ogden, Utah, of carcinoma of the pancreas.

Doctor Conroy was a graduate of the University of Iowa and the University of Iowa College of Medicine.

He was a member of the American Medical Association, the Medical Society of Weber County, the Utah State Medical Association. He twice held the presidency of the Weber County Medical Society and was vice-president of the Utah State Medical Association at the time of his death.

In medical military positions Dr. Conroy was a member of the Volunteer Medical Service Corps. He was chairman of the National Council of Defense at Ogden, Utah, during the World War. He was also chairman of the Weber County Fuel Administration of the United States Fuel Administration during the war; was a member of the United States Public Health Service.

Doctor Conroy was elected and served as mayor of Ogden City, Utah, from 1906 to 1908, and prior to that office was a member of the city council of Ogden, and on the school board of Ogden, Utah. He was also a director of the National Bank of Commerce, Ogden, Utah.

Doctor Conroy was a member of the Dee Hospital Association and on the executive staff of that hospital. Up to the time of his death he was the only male member of the Dee Hospital Alumnae Association, of which he was an honorary member.

He was of the Roman Catholic faith and was affiliated with the Benevolent and Protective Order of Elks, the Woodmen of America, Modern Workmen of America, Woodmen of the World, Neighbors of Woodcraft, and belonged to the Weber Club of Ogden, Utah.

In conclusion I wish to say that the one thing that has been very forcibly impressed upon me in connection with this work, and that is the duty that comes to us when one of our members is stricken in sorrow or sickness. I have heard from the wives and families of our medical brethren who have died, some very lovely expressions of gratitude for the sympathy and friendship which we have expressed to them in the way of letters, flowers, inquiries and calls. This has always been very consoling to the bereaved.

"So long as we love, we serve, and no man is useless while he has a friend, and the number of friends he has is a fair indication of the man."

Another thing that has come strongly to me is that as physicians we should encourage periodic health examinations and that we should submit ourselves for periodical examinations. I think this is very essential and necessary in order that we might be warned of dangers that gradually come upon us, and in conclusion I may briefly state:

1. Life insurance experience and statistical records offer the clinician a valuable source of information concerning the effect on mortality of common minor defects of structure and function which are commonly overlooked.

2. The organization and resources of the institution of life insurance in co-operation with the medical profession constitute a tremendous potential force for the promotion of public welfare.

3. The great advances in medical science of late have been in the field of preventive medicine, but have dealt largely with definite well organized diseases.

4. The present problem which confronts us in the recognition and correction of those insidious degenerative

processes which are prevalent in middle and advanced age.

5. That the only way to detect these defects in time to correct them is by periodical physical examinations of those supposedly well.

E. G. GOWANS,
Chairman.

On motion the report of the Committee on Necrology was ordered referred to the Reference Committee.

REPORT OF THE COMMITTEE ON HEALTH ACTIVITIES

We, your committee, were appointed to investigate the health situation of this state in respect to:

First: The policy, plans and purposes of the State Board of Health.

Second: The policy, plans and purposes of the various other health agencies within the state.

The object being, to find—if possible—the cause or causes of contention, or incoordination, that is so rampant throughout the health activities within this state. Further, to see if there is a reason why there cannot be complete cooperation of all state agencies conducting health work within this state, so that the medical fraternity can support the health activities or policies of this state.

There has been much effort expended by the governor and by different organizations to bring about harmony and to establish a policy that could be supported by all interested in public health matters. Notwithstanding all this, the conditions still maintain.

After some months of investigation, we, your committee, respectfully submit the following report:

First: The policy of the State Board of Health is undoubtedly excellent, it being similar to the best in the United States.

Second: The methods, the ways and means of carrying out these policies are in a measure inadequate, due perhaps to insufficient state appropriations, but to a much greater extent, to the sad failure of cooperation.

Very little need be said concerning the first cause, as this is a matter of the legislative body of the state, except this: We recommend that the State Medical Society support any needed state appropriation that will enable the State Board of Health to carry out its policies as far as possible.

There could be much stated concerning the second cause, but we deem it unnecessary. Suffice it to say, there is, and has been for a long time, a feeling within these various agencies that the State Board of Health, its personnel—perhaps—had no authority, or assumed an unwonted dictatorial attitude toward these agencies, or that the State Board of Health felt its work was being hampered and belittled by these agencies over the state to the point that it has been almost impossible to carry out the policy of the State Board of Health.

However, some of these difficulties have been lately removed and there is a sighted solution.

The Health Unit plan, as proposed by the State Board of Health is similar to the very best plans which are being carried out successfully in many of the states, and this plan, we feel, is as well adapted to this state as to any state in the Union.

Wherefore, as the powers and duties of the State Board of Health, according to statute are definitely stated, that they shall cooperate, supervise and make regulations not contrary to law, as may be deemed necessary for the preservation of public health, we feel that all health agencies actively engaged in health problems should cooperate with the State Board of Health. That when this does not maintain, some not uncertain step should be taken to compel, if necessary, this cooperation.

Further, that no matter what the difficulties, be they personalities, members of boards or agencies, or what not—they should be adjusted or revised for the betterment of the public.

Therefore we wish to suggest a Health Council be appointed or elected by the House of Delegates, consisting of three members from the State Medical Society, these

three to select two lay members, and that they be authorized to act:

First: In a conciliatory and advisory capacity in all health problems.

Second: To be active in public health education throughout the state; so that we as a medical society can support wholeheartedly the health policy of this state.

F. D. SPENCER,
F. LEAVER STAUFFER,
D. E. SMITH,
Chairman.

Report of the Committee on Health Activities referred to the Reference Committee.

REPORT OF THE ADVISORY COMMITTEE OF THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF UTAH

As chairman of this committee, together with the other members of the committee, we have maintained a close relationship, so that in case anything should come up they could give it their attention. I wish to invite attention to two things: One is the establishing of a scholarship for poor boys. Under the present conditions it is very expensive to complete a medical education. Second, it should be made possible for Utah to complete the education of its own doctors. Students finish their education elsewhere and then come back to Utah. The subject of a medical school for Utah is going to come up pretty soon; it has been talked about and discussed pro and con, for as many years as I have been in Utah—in fact, I have talked some myself. This is a problem that will have to be met, and I recommend that we get ready and be prepared to handle the subject when it comes up in earnest.

H. P. KIRTLEY,
Chairman.

Report referred to the Reference Committee.

REPORT OF THE REFERENCE COMMITTEE

It was moved and carried that the report of the Reference Committee be considered by subjects.

Report of the Council—The Council suggests that we adopt the constitution and by-laws suggested by the A. M. A., and I think that with modifications this should be done. The A. M. A. has given this considerable attention and is in a better position to say what should constitute the constitution and by-laws than we are, and I think this suggestion of the Council should receive serious consideration.

The Council suggests that the Committee on Arrangements should be better organized, that an effort should be made to have this committee more thoroughly organized and systematic program outlined for the entertainment of guests of the Association. Last year I heard a scathing arraignment of the absolute inhospitality and our failure to treat guests as they should be treated. I have no idea who is at fault, but I feel that we have made grievous mistakes. This year another guest came and made remarks that he would not stay throughout the meetings and seriously doubted whether he should come back because of his treatment. My suggestion is that it be found out who the guests are we are about to ask here, and a definite program for entertainment of these guests worked out in advance.

After considerable discussion the consideration of the proposed constitution and by-laws was made the special order of business for 1 o'clock on June 25.

Report of the Treasurer—The recommendation of the Reference Committee that the dues be reduced \$1.00, was on motion, not approved.

Report of the Committee on Public Health Activities—This report is from the committee that have the investigation of the health situation in this state. This is a very sensible report and there are good recommendations in it. I think it deserves very careful attention. I think it would be well to retain this committee.

This Reference Committee also suggests that as far as possible these committees should be selected from the House of Delegates so that the House would know something about what is being acted upon. None of the men

on this Health Committee are here to hear this excellent report.

Motion made and carried that the President appoint a Health Council to consist of three members, and that this Council have the authority to advise with lay committees as the occasion may arise.

Report on Public Policy and Legislation—This is a good report and has a number of very good recommendations.

The recommendation of the Reference Committee that the report of the Committee on Public Policy and Legislation be adopted, on motion carried unanimously.

Report of the Committee on Medical Welfare and Ethics—Recommendation of the Reference Committee that this report be adopted, on motion carried unanimously.

Report of the Delegate to the House of Delegates of the A. M. A.—I have now before me a report from the Delegate to the House of Delegates of the American Medical Association. This may be slightly out of order, but in this report is a paragraph I think ought to be specially called to your attention, and that is this: For every 100,000 persons in the United States there are 133 physicians; Great Britain has 92, Switzerland has 77, Japan has 75 and France has 35 and Sweden, 28.

I am quite sure that the problem of four years medical school is going to come up for our consideration; this has been under discussion for a long time. It is my private opinion that two years ought to be cut out, instead of two more added. We cannot afford at the present time to maintain a four years' medical school in this state with the limited funds; therefore, the thing to do is to wipe the medical school off the board, rather than add anything to it. I know something about this school, have had something to do with it for probably twelve years. I know this may be out of order.

W. R. TYNDALE,
Chairman.

CHAIRMAN: This completes the report of the Reference Committee. Any other business to come before the House?

DOCTOR MORRELL: Within the last two years there has been a condition in the state which has caused a good deal of comment in certain quarters, and which I think should be considered at this time. The Utah statute makes it very attractive for the filing of personal injury suits against corporations, and because of this there have been a large number of cases brought from outside states.

Under the statutes as they now read, the testimony of a doctor who has treated the patient can be barred. If x-ray pictures have been taken showing injuries, the testimony of the consultant can be barred. This renders the defendant practically helpless in defending himself in this particular class of suits and causes a great deal of trouble. It is my belief that something ought to be done in the way of limiting the number of suits against corporations and the filing of claims against physicians. It has been further charged that the medical association has always taken adverse action when any question of general good has been brought up in the legislature. In this connection I have a resolution to offer:

"Be It Resolved: That, Whereas, under the present state of the law in the state of Utah it is impossible for courts or investigating bodies to be given the true facts with relation to injuries or claimed injuries of persons suing or claiming the right to recover for such injuries; and,

Whereas, it appears that it is to the best interests of the profession and of society in general that courts and investigating bodies should have the real facts from those best qualified to present them:

Now, Therefore, Be It Resolved, that the House of Delegates of the Utah State Medical Association formally express itself as being opposed to the present system, whereby the laws of the state prevent the presentation of the true facts concerning alleged personal injuries and foster the concealment of the truth in such cases;

And Be It Further Resolved, that it is the sense and purpose of the House of Delegates to further and promote such bill or bills as may be presented to the next

legislature of the state of Utah to correct and remove such evil.

After discussion the report was referred to the Reference Committee.

On motion duly made, seconded and carried, the meeting was adjourned until 12 o'clock noon, Saturday, June 25, 1927.

Saturday, 12 o'Clock, Noon

Meeting called to order; W. R. Calderwood, presiding.
Roll call.

Reading of minutes of two previous days' meetings by the Secretary.

Minutes approved.

SECRETARY: I have here the report of the Reference Committee, on the resolution introduced yesterday by Dr. Morrell.

CHAIRMAN: Please read the report.

"House of Delegates.

"Gentlemen:

"Your Reference Committee recommends that the resolution be referred to the Committee on Public Policy and Legislation for their consideration and report to the House of Delegates at their next annual session. The State Legislature does not meet again for two years, and therefore no change in the present law can be made for two years. Moreover, it is possible that after due consultation with non-biased members of the legal profession, the Committee on Public Policy and Legislation might make some changes in this resolution.

"W. R. TYNDALE,
"Chairman, Reference Committee."

It was moved and carried that the report of the Reference Committee on the resolution of Dr. Morrell, be referred to the Committee on Public Policy and Legislation.

CHAIRMAN: The special order of business at this time is the election of officers for the ensuing year.

Nominations for President-elect are in order.

William D. Donohoe nominated by E. F. Root; nomination seconded by Ralph Pendleton, J. J. Galligan and E. D. LeCompte; moved by Sol G. Kahn that the nominations be closed and the Secretary be instructed to cast the vote of the House of Delegates for Doctor Donohoe for President-elect; carried.

The chairman announced that nominations for First Vice-President were in order.

Joseph R. Morrell nominated R. F. Draper; nomination seconded by Doctor Landerberger; moved by Doctor Tanner that the nominations be closed and the Secretary be instructed to cast the vote of the House of Delegates for R. F. Draper for First Vice-President; carried.

The chairman announced that nominations for Second Vice-President were in order.

George Anderson was nominated by Joseph Hughes; moved by W. Beers that the nominations be closed and the Secretary be instructed to cast the vote of the House of Delegates for George Anderson as Second Vice-President; carried.

The chairman announced that nominations for Third Vice-President were in order.

Joseph E. Jack nominated A. D. Cooley; moved by W. Beers that the nominations be closed, the rules be suspended, and the Secretary be instructed to cast the vote of the House of Delegates for A. D. Cooley as Third Vice-President; carried.

The chairman announced that nominations for Treasurer were in order.

J. C. Landerberger nominated E. D. LeCompte for Treasurer; moved by Doctor Goeltz that the nominations be closed, the rules suspended, and the Secretary be instructed to cast the vote of the House of Delegates for E. D. LeCompte as Treasurer; carried.

Chairman announced that nominations for Councilor from the Second District were in order.

Doctor Goeltz nominated J. C. Landerberger; moved by Doctor Critchlow that the nominations be closed, the

rules be suspended and the Secretary be instructed to cast the vote of the House of Delegates for J. C. Landenberger as Councilor from the Second District; carried.

Chairman announced that nominations for Councilor from the Third District were in order.

Joseph R. Hughes was nominated, and it was then moved by Doctor Tanner that the nominations be closed, the rules be suspended and the Secretary be instructed to cast the vote of the House of Delegates for Joseph R. Hughes as Councilor from the Third District; carried.

The next order of business was the selection of the place for the next annual meeting. A. Z. Tanner and Doctor Morrell issued an invitation for the Association to hold its next annual meeting in Ogden, Utah. On motion the invitation accepted unanimously.

On motion of Doctor Neher, Council was authorized to order from the American Medical Association and place in the hands of each member of this Association a copy of the Manual on Periodic Examination of the Apparently Well.

There followed an informal discussion concerning the funds of the Association, and a motion was made by Sol Kahn that the Council be authorized to invest such amount as in their judgment could be spared from the current funds in any manner which in their best judgment would be for the benefit of the Association. Carried.

CHAIRMAN: The special order of business before the House at this time is the consideration of the proposed constitution and by-laws; what is your pleasure?

Dr. Landenberger moved the proposed constitution and by-laws be read in general session prior to the close of this annual meeting, and the Secretary be instructed to send copies to each of the component societies and that the question be considered at the next annual meeting of the Association. Motion carried.

At this time the president-elect, William D. Donohoe, was introduced. In a gracious manner he expressed his appreciation of the honor conferred and pledged his untiring efforts toward a successful administration.

ADJOURNED SINE DIE.

F. B. STEELE,
Secretary.

Minutes of the Salt Lake County Medical Society, Salt Lake City—The regular meeting of the Salt Lake County Medical Society was held in the assembly room, Medical Arts Building, Monday, June 13, 1927.

Meeting was called to order at 8:10 p. m. Forty-two members and four visitors were present.

Minutes of the previous meeting were read and accepted without correction.

It was the wish of the society that a moving picture put on by the Fleischmann Yeast Company be presented. The picture was then shown.

W. R. Tyndale reported for the Library Committee. He moved that the proposed amendment to the By-Laws be changed to read as follows:

"It is hereby moved that Section 2, Chapter 5, of the By-Laws of the Salt Lake County Medical Society be changed, effective January 1, 1928, to read as follows:

"The annual dues shall be \$15.00 and shall be payable on January 1 of each year. Members not having paid by February 1 of each year shall be considered delinquent and their dues shall be automatically raised to \$17.00. Executive Committee shall authorize expenditure of the money."

"Any member who shall fail to pay his annual dues by April 1 shall be held suspended without action on the part of the society. A member suspended for nonpayment of dues shall be restored to full membership on payment of all indebtedness. Members more than one year in arrears shall be dropped from the roll of members."

Seconded by A. C. Callister. Discussed by: H. T. Anderson, F. B. Steele and W. F. Beer. H. T. Andrews moved that the amendment be amended so that the

increase in dues could only be used by the Library. No second.

W. L. Rich reported for the Community Clinic Committee.

J. P. Kerby reported for the Committee on Public Health and Legislation.

The secretary reported for J. U. Giesy, chairman of the Committee on Necrology.

F. A. Goeltz discussed the activities of the Boy Scouts and plans for their instruction and requested the members of the society to examine some deserving Boy Scouts free of charge. He moved that a permanent committee be appointed to be known as the Boy Scout Committee of the Salt Lake County Medical Society, this committee to devote its time to the physical welfare of the Boy Scouts. Seconded and carried.

The chair appointed the following men on this committee:

L. J. Paul, chairman; W. A. Pettit, Ralph Pendleton.

John Z. Brown announced plans for the state meetings.

J. A. Phipps spoke of the postgraduate course and urged the support of same.

P. V. Jameson was unanimously elected a member of the society, thirty-one members voting.

Adjournment at 9:20 p. m., after which refreshments were served and an informal smoker was held.

M. M. CRITCHLOW, Secretary.

At the close of the Northwest Medical Convention at Boise, Dr. E. F. Root of Salt Lake automatically became president. Dr. E. R. Dumke of Ogden was elected as councillor from Utah. Quite a number of the Utah state members visited the convention.

Special Course for General Practitioners in Physical Therapy—The Stanford Medical School announces to the physicians in California that Frank B. Granger, M. D., of Boston, Massachusetts, will conduct a one-week course in physical therapy from September 26 to 30, 1927.

This course will afford the physicians an opportunity to obtain, under ethical conditions and without any commercial connections, the latest and most authoritative developments of this branch of the therapeutic art from a recognized expert in this medical field.

Doctor Granger was director of physical therapy in the United States army during the World War. At the present time he is physician-in-chief of the Department of Physical Therapeutics at the Boston City Hospital. Besides being instructor in physical therapeutics at the Harvard Medical School, and lecturer on the same subject at the Tufts Medical School, he is consultant to a number of hospitals, including the Boston Floating Hospital. He is a member of the Medical Council of the United States Veterans' Bureau and the Council of Physical Therapy of the American Medical Association.

The course will consist of lectures, demonstrations, the illustrative use of apparatus, and such clinics as can be fitted into the program. Special attention will be given to electrotherapy and the theoretical and practical application of such modalities as the galvanic, sinusoidal, faradic, static current, medical and surgical diathermy and the use of the ultra-violet ray.

It is proposed to devote each morning from 10 on, and each afternoon from 2 o'clock on, to the work of this course. The lectures and demonstrations will be conducted in Lane Hall, Stanford Medical School Building.

The course will be strictly limited to properly qualified licensed physicians and surgeons. A nominal fee of \$10 will be charged for this course. On payment of the fee physicians will receive a card of admission to the lecture room in which the course is conducted.

Registration for the full course will be received at the dean's office, Stanford Medical School, on or before noon, September 20. Requests for information or remittances to cover advance registration should be addressed to The Dean, Stanford Medical School, 2398 Sacramento Street, San Francisco. A check for advance registration should be accompanied by the physician's name and home address, the medical school from which he graduated, and the year of graduation.

MISCELLANY

COMMENT ON CURRENT ARTICLES

From time to time articles and items are printed in this journal which would seem worthy of special comment or, at least, to which the attention of readers might be called. That thought is what inspires the inauguration of this column, which, as occasion indicates, will make its appearance in this department of California and Western Medicine.

The July issue of CALIFORNIA AND WESTERN MEDICINE contained a number of articles on special phases of medical science and progress that were of more than usual interest. It is hoped that most of these contributions, from California and Eastern colleagues were of sufficient interest to induce perusal by many of our readers.

Such comment as will be here made will deal with only three of these articles. The papers referred to were read at the Los Angeles session of the California Medical Association, two being by guest speakers, and the third being a contribution from a lay contributor. The authors of the three articles were: Surgeon General Hugh S. Cumming of the United States Public Health Service, Professor William W. Campbell, president of the University of California; and Professor William B. Munro of Harvard University, Cambridge.

When the papers mentioned are read, one senses how these three men in many ways agreed on certain fundamental problems in medical education and practice and public health work. Each paper was complete in itself, and yet each in one sense makes an admirable corollary to the others.

Surgeon General Cumming's paper on "Public Health and the Public Health Service" comes to us at a most opportune time. Doctor Cumming, in his closing paragraphs, pointed out how important it is that private physicians—those who are engaged in the practice of clinical medicine—should have a proper understanding of the responsibilities and work of sanitarians and public health officials. As stated by him, our lay citizens are very much interested in so-called preventive medicine, and it is extremely important that practitioners engaged in clinical medicine shall not be prejudiced against or thwart proper public health activities. In an equal measure it is important that sanitarians and public health workers should not unnecessarily or without very special reasons carry phases of their work into the domains of clinical medicine.

It seems strange that our national public health service should be the outgrowth of an effort, by which our forebears in 1798 attempted to care for injured and sick seamen in our marine service. Perhaps this was in part due, because at that time the responsibility of the care of the sick and injured had not developed as part of a community consciousness, so that local seaport communities were unwilling to accept sick or injured seamen not resident in their own districts. To meet this condition, the government had to step in and help these unfortunates. The name Marine Hospital Service, to which later on the Public Health Service attachment was made, continued from 1798 until 1912, when the "marine hospital" portion of the name was eliminated from this important department; which thrives, strange to say, under the treasury department of the United States government. Fortunately, it is doing splendid work under that department, just as the department of the interior is likewise doing important public health service in efficient manner, as was commented on in the July issue.

In good time, however, it would seem only rational

and logical that so important a phase of the nation's welfare as the health and efficiency of its citizens, should be dignified by a department of its own in the cabinet of the president of the United States. With the rapidly developing consciousness of the people on matters of social and health welfare, it cannot be many years before other than purely material interests of our country will be dignified by separate cabinet departments in the executive branch of our government. It is to be hoped that day is not far distant.

When it is bluntly stated, it seems a somewhat shocking commentary upon the more than nineteen hundred years of Christian civilization, that the world should have witnessed more progress in the elimination of disease, the preservation of health and the prolongation of life, in less than the last one hundred years, than in all the preceding centuries. And yet such are the facts. As Doctor Cumming indicated, the modern public health movement may be said to have its real basis in those investigations which were made in England about 1850, and which had to do particularly with the conditions of wage-earners and their environments.

Should it not also give Golden State citizens a certain amount of astonishment, well akin to a shock, to know that when California formed its board of health in 1871, that the California State Board of Health was the third of such boards to come into existence among the commonwealths comprising the United States of America? In that connection, California has other pioneer public health work of which it may be proud, but on those matters comment will be reserved for some future time.

Doctor Cumming gave as his definition, formulated to cover the scope of modern public health, that which had been proposed by Professor C. E. A. Winslow, concerning whose recent course of lectures in Los Angeles, editorial comment is also made in this issue.

It is gratifying for all citizens, but for physicians especially, to know that the United States Public Health Service has a very front rank among international agencies of its type, and that so keen and able a judge as Dr. William H. Welch, is sponsor for such an opinion.

Private physicians, who are the practitioners of clinical medicine as contrasted to public health practitioners, should and do appreciate the significance of the facts, that today the diseases which interfere with a still further prolongation of human life, are particularly the degenerative diseases and the respiratory infections of adults and of advancing life, diseases whose origin and course are often intimately associated with defects in our social fabric, and which will therefore be somewhat difficult and slow to eliminate.

Professor Winslow, in one of his Los Angeles lectures pointed out that in the period 1894 to 1924, New York state showed the following remarkable decrease in communicable diseases:

| Disease | Percentage of Decrease |
|----------------|------------------------|
| Scarlet Fever | 99% |
| Diphtheria | 95% |
| Nervous System | 85% |
| Tuberculosis | 79% |
| Respiratory | 53% |

During the same period, in New York State, there was an increase as follows:

| Disease | Percentage of Increase |
|-----------------------------------|------------------------|
| Cancer | 156% |
| Heart Disease | 187% |
| Arterial and Circulatory Diseases | 650% |

In that lecture, Professor Winslow gave statistics for California for the year 1925 as follows:

| | |
|--------------|---------------|
| Circulatory | 11,262 deaths |
| Nervous | 6,129 |
| Cancer | 5,278 |
| Tuberculosis | 3,186 |

(This is one of California's major problems.)

| | |
|-----------|-------|
| Accidents | 4,558 |
|-----------|-------|

(It is interesting to note how very high is this figure.)

| | |
|-----------|-------|
| Pneumonia | 3,624 |
|-----------|-------|

(This is a remarkably low rate of deaths from pneumonia—due, no doubt, to California's climate.)

| | |
|---------|-------|
| Suicide | 1,109 |
|---------|-------|

(This is very high, and suggests attention.)

It is interesting to note that whooping cough is the only disease which was listed in a list of some twenty communicable diseases which, in 1925, caused more than 450 deaths. Diphtheria, scarlet fever, etc., have all disappeared below this figure.

When Surgeon General Cumming said:

"This separation of curative and preventive medicine was an error. We are coming more and more to recognize the unity of medicine and more and more to see that if we are to achieve the desired results, all departments of medicine must co-operate to the one end, which is the prevention of disease and the promotion of health. The separation which has existed between curative and preventive medicine is sound neither in theory nor in practice," he made statements which are worthy of most serious thought.

Prejudicial opinions and conclusions will not help the situation. What is needed is clear knowledge of facts, logical conclusions and constructive thinking and planning for the future. If these public health and clinical medicine problems are approached in that spirit, the world will become a better world to live in, and regular medicine, both for its private practitioner disciples and its public health official representatives, will have occasion for greater pride in a noble calling, than ever.

Let us turn, now, and hear what an educator who has made a notable name for himself in the field of astronomy, and as the administrator of the largest state university in America, has to say on the "Education of Physicians."

If there is one major thought running through President Campbell's address, it is that collegiate and professional education fails if it does not give to the students the capacity to think independently of teachers and of books.

Professor Campbell's charge that practically 90 per cent of the people of our great country have a very distorted notion of what is a college, is startling, and yet observation cannot help but make most of us concur in his viewpoint.

When President Campbell said that "physicians must deal pleasantly and successfully with people," he only emphasized that the art and the science of medicine must ever go hand in hand, if a doctor is to do his work to best advantage.

The high cost of present day living is certainly met by the high cost of education, for, as Doctor Campbell states, in some institutions it costs something like ten thousand dollars to carry a single student through to his degree as a doctor of medicine, "not counting the sacrifices of time and money and earning power which the students themselves will have made." And after this education and training is acquired, the young doctor must go out and meet in every day practice, the cultist exponents, with little education and training, upon whom the state has placed the dignity of licensure.

Those members of our profession who meet from time to time to discuss curricula and lay down in somewhat dogmatic fashion that this particular subject must have so many hours, and that subject, so many more, and so

on, can well ponder over Doctor Campbell's assertion: "The conscientious students do not have enough time to reflect upon their work, not enough time to think of what it is all about; and the non-serious students have too much of their work done for them by the professors."

What is said in Doctor Campbell's address concerning the atmosphere of scholarship has admirable support in Professor Munro's comments on the life work of the late Lord Lister and the late Sir William Osler.

President Campbell's statement that "personal responsibility is the greatest educator there is" will find hearty support from hundreds of medical men who laid the foundations of successful practice not in the medical schools from which they graduated, but in their early environments as practicing physicians, where they were forced to meet obstacles of such nature, that only through their own study and efforts in the school of hard knocks were they able to become successful physicians. It was experiences in such environments which made the success of many doctors in California, whose names and achievements have shed luster on our profession and on our California Medical Association, in our own and in earlier days.

No two Anglo-Saxon names could be mentioned in the whole realm of medicine toward which a kindlier spirit and reverence exists, than those of Lister and Osler. The California medical profession is indebted to a layman, Professor William B. Munro of Harvard, for a most admirable character study of these two men, who in their day and generation were outstanding torchbearers in medical progress; and whose spirit, because of the magnitude of their achievements, still animates the profession to strive for the ideals promulgated by them, and which are now the possession of the entire profession.

Just as Doctor Cumming emphasized the public health conditions existing in Great Britain along about 1850, so did Professor Munro call attention to the deplorable state of scientific medicine at that time, when in the hospitals of Great Britain practically two out of every five injured workmen died, often from minor injuries.

The part: which van Leeuwenhoek, discoverer of the microscope; Pasteur's later utilization of that instrument to establish the "fact that decay and fermentation result from microorganisms; Lord Lister's application of Pasteur's discovery in showing the rôle of pathogenic bacteria in the human organism, all played in the foundation of modern day prevention of diseases, was graphically told.

The reference to malaria in the swamps about Rome, and the fact that human beings failed to put two and two together in that particular problem, just as the Romans and others were unable to understand that the coins they made were practically printing blocks and that more than one thousand years were needed before these thoughts were put together and demonstrated, was an admirable way in calling proud man's attention to some of his mental obtuseness.

Professor Munro's presentation of the work of Lister and Osler fits in with President Campbell's similar viewpoint on the essence of real education, as witness Professor Munro's statement: "The two were alike in possessing minds of the inquiring type, and both acquired a fine, broad background of cultural education in addition to the more specialized professional training."

The concluding paragraph of Professor Munro's address opened with this sentence:

"The advance that has been made in medicine and in surgery, in hygiene and in sanitation, in protecting the public health, in controlling the major routes of infection, and in building up the physical vigor of the people—this advance has been one of the mightiest achievements of modern civilization, quite worthy to be ranked with things that border on the miraculous."

The above thought was a worthy basis upon which to make the plea that with "the immense wealth of the

United States, the amount of money devoted to research in the field of public health is pitifully small."

To those of our members who have not yet taken the time to read these three articles, from which quotations have been taken, and upon which comments have been made, we suggest that there is a real treat in store. There be none among us who cannot advantageously read and reflect on what Dr. Hugh S. Cumming, President William Wallace Campbell and Professor William B. Munro had to say to us in the papers which were printed in the July issue of CALIFORNIA AND WESTERN MEDICINE.

NEWS

Rockefeller Foundation—The Rockefeller Foundation has elected to its board of trustees Herbert S. Hadley, chancellor of Washington University, St. Louis; Dr. David L. Edsall, dean of the Medical School of Harvard University, and Dr. George H. Whipple, dean of the School of Medicine and Dentistry, University of Rochester.—*Science*.

California's Eugenic Sterilization—A study of the workings of the California eugenic sterilization law is being made, according to *Science*, by E. S. Gosney, a Pasadena philanthropist.

More than 5000 operations have been performed in the state institutions, under this law, during eighteen years, and it is the intention to analyze the effects from all points of view and make the facts public. The investigation has been in progress since the beginning of 1926, and seven papers have already been prepared for publication. The technical side of the undertaking is in the hands of Paul Popenoe, and the work is supervised by an advisory committee consisting of Dr. J. H. McBride, Dr. George Dock, Henry M. Robinson, Otis H. Castle and Paul Popenoe, of Pasadena; Chancellor David Starr Jordan and Professor L. M. Terman of Stanford University; S. J. Holmes, of the University of California. The Los Angeles Obstetrical Society has taken up, at Mr. Gosney's instigation, a parallel study of the operations for sterilization performed in private practice.—*Boston M. & S. J.*

Dr. R. V. Brokaw Appointed Field Representative—The appointment of Dr. Raymond Voorhees Brokaw as Field Representative of the American Society for the Control of Cancer has been announced. Doctor Brokaw resigned his position as Superintendent of Health of Springfield, Illinois, and took up his new work on June 6.

Dr. Brokaw is a native of New York City, attended Wesleyan University and graduated from the College of Physicians and Surgeons, Columbia University. He brings to the society broad experience in public health work both in this country and abroad.

As Field Representative his duties will take him throughout the United States, where he will meet state chairmen and other persons engaged in carrying on the campaign for the control of cancer. He will act as liaison officer to carry information to collect it.

Doctor Brokaw takes the position left vacant by the resignation of Dr. William F. Wild, who, during his twenty-nine months with the society, visited every state in the Union, consulting state chairmen and other medical men, as well as dentists, nurses and leaders in public health work in the United States.—*Campaign Notes of the American Society for the Control of Cancer*.

Canada's Red Cross Seaport Nurseries—At Quebec, Halifax, and St. John the Canadian Red Cross is maintaining seaport nurseries for immigrant mothers and children. During the past six years these nurseries have given aid to 85,000 women and children, and last year over 5000 follow-up cards in thirteen different languages were sent to the Red Cross chapters in the districts to

which the families were going.—United States Department of Labor, Children's Bureau.

While More Than 1,000,000 Dairy Cattle, out of 30,000,000 head tested for tuberculosis, have been destroyed, the industry is in better condition today than it was ten years ago, when the campaign against the disease was inaugurated. Such was the opinion expressed by Dr. John R. Mohler, chief of the Bureau of Animal Industry, United States Department of Agriculture, at the recent Eastern States Tuberculosis Conference.

Fear expressed by many people in the beginning that the campaign would turn the public taste against milk consumption has proved to be unfounded, according to Doctor Mohler. On the other hand, he said, the annual consumption of milk in the United States has increased more than forty-nine quarts per capita since 1918. During 1926 the public consumed 56,000,000,000 pounds of milk and cream, an increase of 2,000,000,000 pounds over the quantity consumed in 1925.

Doctor Kiernan urged the continuance of the accredited-herd plan. At a very slight cost each year to the livestock owner the annual test may be made, he said, and if the herd is shown to be free, the certificate of accreditation may be extended for another twelve months. The total number of accredited herds on June 1, 1927, was 126,557, and the once-tested-free herds, 1,498,820.—United States Department of Agriculture.

A New Art School for Negro Students—Roland Hayes, the celebrated Negro singer, has recently acquired 600 acres near Calhoun, Ga., where he was born, which is to be used as the site for a school where talented and ambitious Negro students may receive training in the arts. The school is intended as a memorial to his mother.—United States Department of Labor, Children's Bureau.

Keep Watch for Poliomyelitis Cases—June has brought to California an increased number of cases of poliomyelitis. The situation, so far, is not alarming but conditions indicate that we shall have more cases of this disease during the coming summer and fall months than were present during the same period of last year. Health officers are requested to keep a sharp outlook for cases that may be poliomyelitis and to institute isolation without delay. Prevention of contact with suspected cases is the only available method of control that we have. The following table indicates the relative prevalence of the disease in California, by months, since 1923:

| | | POLIOMYELITIS | | | | |
|-----------|-------|---------------|------|------|------|---------|
| | | 1923 | 1924 | 1925 | 1926 | 1927 |
| January | ..... | 3 | 8 | 17 | 8 | 13 |
| February | ..... | 3 | 4 | 14 | 14 | 9 |
| March | ..... | 1 | 9 | 11 | 13 | 7 |
| April | ..... | 2 | 4 | 29 | 10 | 7 |
| May | ..... | 7 | 1 | 36 | 11 | 20 |
| June | ..... | 5 | 4 | 79 | 16 | 54 |
| July | ..... | 8 | 10 | 204 | 17 | to 6/29 |
| August | ..... | 23 | 9 | 200 | 18 | .... |
| September | ..... | 40 | 17 | 105 | 35 | .... |
| October | ..... | 91 | 51 | 51 | 13 | .... |
| November | ..... | 39 | 39 | 51 | 17 | .... |
| December | ..... | 29 | 36 | 24 | 15 | .... |
| Totals | ..... | 251 | 192 | 821 | 187 | .... |

—California State Board of Health Weekly Bulletin.

Harvard Medical School Establishes Loan Fund—The *Boston Medical and Surgical Journal* notes that the Medical School of Harvard University, beginning with those entering in 1927, has increased its tuition to \$400 a year, and coincidentally will provide a loan fund from which students who enter in that year or thereafter may borrow. Loans will be made to students in the second, third and fourth year classes, and occasionally to men in the second half of the first year, but in all cases to those whose records have been sufficiently creditable to make it probable that they will remain in the school. Beginning this year, all applicants for admission to the

school living within fifty miles of Boston will be required to have a personal interview with the assistant dean or a member of the committee on admission.—National Board of Medical Examiners' Bulletin.

Doctor Sands Honored—Dr. Jane Sands, D. N. B., '20, a graduate of the Woman's Medical College of Pennsylvania and now a member of its faculty, was awarded the Sarah Berliner Research and Lecture Scholarship, March 6, at the biennial meeting of the American Association of University Women in Washington. This is one of the highest honors open to women in research.—National Board of Medical Examiners' Bulletin.

C. H. Hittenberger Company Moves to New Quarters—Thirteen years ago, at 23 McAllister Street, Mr. C. H. Hittenberger laid the foundation of a business that, since, has won for him an enviable reputation among the profession, not alone of this state, but throughout the country. How well the foundation was laid is shown in the consistent growth of this business from a "one man" shop to an organization now occupying two stores and a factory where thirty employees are constantly kept busy at their various tasks. The removal of their Market Street store, formerly at 1103 Market Street, to new and larger quarters at 1115 Market Street is another step which denotes the growth of this progressive company.

New American Medical Directory—For more than twenty years the American Medical Association has been publishing a directory of the medical profession. Ten editions have appeared, the last one (1927) being just off the press.

The first edition (1906) contained 128,171 names of physicians in the United States, its dependencies and Canada. The new tenth edition includes 164,002 names. There is an increase of 2644 over the previous edition. If the directory were merely a list of names and addresses of physicians it would not have great significance. That information is valuable, but of far greater value is the fact that the directory gives proof of the right of each physician listed to practice medicine—namely, time and place of graduation and year of license. In addition, society membership, specialty and office hours are included. Capital letters indicate those who are members of their county medical society, and a special symbol follows the names of those who are Fellows of the American Medical Association.

The information concerning hospitals and sanitariums of the United States is another valuable and extensive feature. Descriptive data appears following the names of 7816 hospitals and sanitariums such as type of patients handled, capacity and name of superintendent or director.

The list of physicians in each state is preceded by a digest of the laws governing medical practice in that state; members of licensing board, state board of health, names of city, county and district health officers, officers of constituent state associations and component county and district medical societies. The book, in short, is one vast source of reliable data concerning the personnel of the medical profession and the institutions and activities closely related to it. It contains 2575 pages and is sold for \$15.00. Published by the American Medical Association, 535 North Dearborn Street, Chicago.

Hopkins Adopts Quarter System—A new curriculum will become effective in part next year and in full the following year at Johns Hopkins University Medical Department, arranged on the basis of four quarters of eight weeks each for the academic year. Required work will be confined to a minimum in each major department, with an aggregate of 2600 hours of instruction in the required courses, leaving about half the student's time for courses of his own selection. Term examinations will be discontinued next fall and group examinations substituted. Examinations in the preclinical studies will be held at the end of the second year and in the clinical subjects at the end of the fourth year; they will be along more comprehensive lines than the present detailed type of examinations.—National Board of Medical Examiners' Bulletin.

There is a common saying that "a doctor is not a good business man." This is true to a certain degree. And why? We know of any number of highly successful business men that are not good, fair or even poor doctors; they have no time to study medicine. A business man is a business man first, last and always, and the busy doctor is a doctor first and last and with no leisure time to devote to business.

With this thought in mind, Milton Meyer & Co., realtors, 308 Kearny Street, are offering a service that will enable the busy professional man to get the proper business attention and be placed in a position so that his financial investments will be continually safeguarded.

The Art of Medicine in Relation to the Science of Medicine—The *Journal of the Medical Society of the State of New Jersey*, in its June issue, prints an abstract of an article in Harper's Magazine by Dr. Joseph Collins of New York. Its title is "A Doctor Looks at Doctors." It is a thought-stimulating article. One of its closing paragraphs is here quoted:

"My observation and experience convince me that when physicians become engrossed with what is called scientific medicine they not only get divorced from the art of their profession, but they acquire a degree of contempt for it which in many instances amounts to scorn. When they do this they give a leg up to supernaturalists; they prepare a cropper for themselves, and they render the sick a profound disservice.

"It would be a wise thing to devote a part of medical education to the mind of the physician himself, especially as it concerns his patients. For the glories of medical history are the humanized physicians. Science will always fall short; but compassion covereth all."

John Haynes Holmes, distinguished leader of the Community Church of New York, has just announced that a free medical clinic and dispensary is to be established for the church members, signaling "a partnership between religion on the one hand and medicine on the other." Rabbi Wise in the Free Synagogue has for many years maintained a mental hygiene clinic in connection with his institution. Where the psychiatrist and physician are honored and followed, church and synagogue clinics can do much good. Only when the specialists and scientific experts are condemned in the name of spurious science does evil and tragedy result.—San Francisco *Call-Post*.

Medical Directors' Compensation Not Tax Exempt

The compensation received by a medical director of a state or county hospital is no longer exempt from income taxes, under a ruling just announced by the Income Tax Department, according to M. L. Seidman, tax expert of Seidman & Seidman, certified public accountants.

"Heretofore," Mr. Seidman explained, "the law used to be that a medical director in the position mentioned need not pay any income taxes on his compensation since he was a state employee or the employee of a subdivision of a state, and the salaries of such employees were exempt from tax. Under the 1926 law the further requirement was added that the employment be in connection with an essential governmental function. It is now held by the Income Tax Department that operating a hospital is a proprietary rather than a governmental function, and hence the department concludes that the compensation of a medical director is subject to tax under the present law.

"The probabilities are," Mr. Seidman added, "that this ruling will be contested, for there is a serious doubt whether conducting a hospital is purely proprietary. The contention may be made that the state wishes to safeguard life as well as property, and maintaining a public hospital could therefore be regarded as an essential governmental function."

An Iowa Tribute to the Late William Everett Musgrave—Physicians of California who are familiar with the numerous activities of the late William Everett Musgrave, who knew him in any personal intimacy, and who kept in touch somewhat with his many activities, will find it easy to be in accord with the suggestion

of an Iowa colleague, who recently sent to the *Journal of the American Medical Association* a letter in which mention was made of Doctor Musgrave's work in the Philippines. In the April issue of *CALIFORNIA AND WESTERN MEDICINE*, pages 535 and 536, is printed a list of the scientific publications of Doctor Musgrave, and a perusal of the many studies therein recorded cannot do otherwise than to lead one to the conclusion—that he was indeed an exceptional man among men, and an unusual physician among physicians.

The clipping to which reference is made reads as follows:

To the Editor—In an article entitled "First-Hand Impressions of the Philippine Problem," former Secretary of War Henry L. Stimson pays the following tribute to the medical profession:

"Although we in America have never heard enough about it to give it due credit, the work of the men of the Medical Corps of the United States army and of the United States Public Health Service has written just as bright a page in the Philippines as that which in Cuba and Panama brought about the extermination of yellow fever and saved the southern states of this country from the threat which hung over them every summer."

Among the men who contributed in a very great measure to the success of this work in the Philippines must be included the late William Everett Musgrave. I believe that some movement should be inaugurated to honor the memory of this modest, fearless, untiring worker who, I am sure, received too little recognition during his lifetime.—W. S. OSBORN, M. D., Osage, Iowa.

Huntington Memorial Hospital in Los Angeles County—The section of the will of the late Henry Huntington of Los Angeles, dealing with a bequest of two million dollars for a hospital as a memorial to his uncle, the late Collis P. Huntington, reads as follows:

"Nineteenth: As a memorial to my uncle, Collis P. Huntington, and my son, Howard Huntington, I hereby give, bequeath and devise to Henry M. Robinson, Dr. Ernest A. Bryant, George S. Patton, W. E. Dunn and Caroline E. Holladay, in trust, for the Collis P. and Howard Huntington Memorial Hospital, and for the use and purposes hereinafter stated, the total sum of two million dollars (\$2,000,000); one-third of said sum to be used by said trustees in purchasing the necessary ground and constructing thereon a building to be used as such memorial hospital, and two-thirds of said sum to be invested and reinvested, loaned and reloaned by said trustees for the purpose of making the best available profit thereon, all profits and income derived from the same to constitute an endowment fund for the maintenance and operation of said memorial hospital, which said hospital shall be erected and maintained at or near the city of Los Angeles, in the State of California, for the reception and treatment of individuals, but not including persons afflicted with tuberculosis. I make no provisions in this will for persons afflicted with tuberculosis for the reason that many institutions are being established for the separate treatment of persons so afflicted, and in my opinion, they should be kept separate and apart from persons afflicted with other diseases. In case any of the said trustees herein named shall die, resign or be removed, or for any reason become incapacitated to perform the duties imposed upon them under this will, the surviving trustees shall fill such vacancy by appointment, made in writing, to the end that such trusteeship shall remain perpetual, and said endowment fund kept invested and reinvested, or loaned or reloaned, from time to time, so as to yield an income for the perpetual maintenance of said hospital."

Record of Immunization—A law has been passed in Uruguay, providing for the registration of all cows vaccinated against tuberculosis, with a photograph of each, the date, method and result of the vaccination, and other material deemed necessary by the Government. This step has been taken in order better to enforce regulations requiring the vaccination of all dairy cows against tuberculosis.—M. J. and Record.

READERS' FORUM

Treatment for Mussel Poisoning—Noting in the papers report of many cases of food poisoning due to the eating of mussels, permit me to offer to the profession a line of treatment that has never failed me, when given reasonably early in such cases, having had a few recently. This treatment I have tried out for over twenty-five years in many cases of food poisoning from tainted meat, fish, shellfish and mushroom poisoning due to toadstools.

It consists of a hypodermic of one-quarter to half a grain of morphin, depending upon the severity of the pain, then give one heaping teaspoonful of cayenne pepper mixed in at least two ounces of castor oil, to which is added a couple ounces of hot water to float the oil. This medication has never failed to give relief in a short time and in only a few cases have I ever had to repeat the dose. Have treated over one hundred cases of food poisoning with this method without a single death. I feel as sure of its results as when giving antitoxin or other proven remedies. If this will be of any help to others as it has been to me, I will be pleased.

W. C. SHIPLEY,
Cloverdale Hospital.

St. Louis an Important Center for Study of Cancer—St. Louis, long an important center for the study of cancer, will now take rank among the foremost cities of the world in the subject of cancer research. This is made possible by a gift to Washington University School of Medicine of \$1,000,000 for a radiological institute to be known as the Mallinckrodt Radiological Institute. The donors are the General Education Board and members of the Mallinckrodt family, chemical manufacturers of St. Louis.

It is believed that the establishment of the Mallinckrodt Radiological Institute will lead to a consolidation of the Barnard Free Skin and Cancer Hospital with Washington University. This hospital, with an endowment of approximately \$500,000, the gift of the late George D. Barnard, materially added to each year by his widow, is one of the unique institutions in the world. The service is entirely free, and patients suffering from cancer not only get hospital care, but also have the services of some of the most prominent physicians in the city without charge.

While the greatest opportunity the institute will have will be the study of cancer, particularly its causes, prevention and cure, its work will include also the study of the diagnostic and therapeutic uses of x-rays and of those new artificial rays of greater power than the x-ray, whose curative qualities as yet have not been defined.—*Campaign Notes of the American Society for the Control of Cancer.*

The Art of Medicine—Fifty-eight graduates of the Cornell Medical College, who received their degrees as Doctors of Medicine at commencement exercises June 9 at the college building, were admonished by Dr. Charles L. Dana to be "polished ladies and gentlemen as well as skillful and conscientious practitioners."

While stressing the necessity of maintaining the highest standards and always keeping abreast of progress in an exacting profession, Doctor Dana, in the commencement address, warned the graduates that three-fourths of the qualifications for success in medical practice were externals.

"Women will select the doctor who is presentable in preference to the one who is not," said Doctor Dana, "and it is the women who select the family doctor."

Doctor Dana warned especially against professional jealousy, and urged the new doctors to cultivate some interest outside their profession—anything from collecting stamps and old books to some branch of science. He saw a solution of the problem of the country doctor in the fact that the automobile now has made it possible for them to live in a large town, and said the progress of aviation pointed to the eventual use of airplanes by doctors. Half jocularly he urged the graduates to "get married, practice medicine, and learn to fly."

—Boston M. and S. J.

CONSTITUTION AND BY-LAWS AND PROPOSED CHANGES*

I

This Section I is a copy of the Constitution and By-Laws with amendments adopted at 1925 session under which the California Medical Association is now functioning. It is this Constitution and By-Laws which will come up for revision at the 1928 annual session at Sacramento.

(For convenience of reference all the Articles of the Constitution and Chapters of the By-Laws belonging to this set I are indicated by the letter A.)

CONSTITUTION

A Article I—Name and Object

Section 1. The name of this Association is the "California Medical Association."

Sec. 2. The purposes of this Association are to promote the art and science of medicine and the betterment of public health. Contributing to this end it shall endeavor to federate and bring into one compact organization the entire medical profession of California, and to unite with similar societies of other States to form the American Medical Association and such regional associations as its House of Delegates may deem advisable; to extend medical knowledge and advance medical science; to elevate the standard of medical education and practice, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of medicine and public health, so that the profession may become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in the prolonging and adding comfort to life. This Association as a constituent unit of the American Medical Association hereby recognizes and pledges its support to the Constitution and By-Laws of the American Medical Association and rulings by competent authority thereof.

A Article II—Component Societies

Component societies shall consist of those county and district societies which hold charters from this Association and whose Constitution and By-Laws, rulings, activities and procedure are not in conflict with the Constitution and By-Laws and decisions of competent authority of this Association.

A Article III—Membership and Guests

Section 1. Members—The members of the Association are the members of the component county societies and include all the active, associate and affiliate members thereof. Every member of the California Medical Association (hereafter elected) must hold the degree of Doctor of Medicine from an institution of learning accredited at the time of conferring such degree by the American Medical Association and must be elected to membership by the component county society of the county wherein he resides, and pay all dues to the secretary of his county society.

Sec. 2. Active Members—Active members shall be elected from those Doctors of Medicine licensed to practice medicine and surgery in the State of California who in the judgment of the component county society of the county of residence thereof are deemed of such ethical integrity as is required for such membership.

Sec. 3. Associate Members—Associate members shall be elected from those Doctors of Medicine engaged in teaching or research work or holding position in Federal service or otherwise, who are not licensed to practice medicine and surgery in the State of California and hence are ineligible to active membership. These members

shall have all the rights and privileges of active members except the right to vote or hold office. Their dues to the State Association shall be one-half the dues of active members, and their dues to their county society shall be fixed by such county society.

Sec. 4. Affiliate Members—Affiliate members shall be elected from those Doctors of Medicine eligible for active membership, but who are for any reason satisfactory to the county society and the Council of the State Association entitled to special consideration. Those members shall have all the rights and privileges of other members except the right to vote or hold office. Their dues to the State Association shall be \$1.00 per year, and their dues to their county society shall be fixed by such county society.

Sec. 5. Honorary Members—Honorary members of the California Medical Association may be elected by the House of Delegates.

Sec. 6. Guests—Any person may become a guest during any annual meeting, on invitation extended by the Secretary with the approval of the Council or the Executive Committee. Guests shall be accorded the privilege of participating in all of the scientific work for that meeting.

A Article IV—House of Delegates

The House of Delegates shall be the legislative body of the Association, and shall consist (1) of delegates elected by the county medical societies, (2) the Councilors, and (3) ex-officio, the President, President-elect, and the Vice-President of this Association.

A Article V—Meetings

Section 1. The regular meetings of this Association shall be held annually at such times and places as the Council shall fix; and notice thereof shall be published in the Journal of this Association in at least two regular issues preceding such regular meeting.

Sec. 2. Special meetings of the House of Delegates may be convened as the By-Laws provide. Twenty-five members shall constitute a quorum in the House of Delegates.

A Article VI—Officers

Section 1. The officers of this Association shall be a President, a President-Elect, a Vice-President, and fifteen Councilors, of whom one shall be elected from each of the nine Councilor districts and six at large, two of whom shall be elected from the County of Los Angeles, and four from the remainder of the State. Not more than three Councilors shall be elected from any one Councilor district. These officers shall be elected by the House of Delegates at the time and in the manner provided in this Constitution and By-Laws.

Sec. 2. The officers, except the Councilors, shall be elected annually. The terms of the elected Councilors shall be for three years.

Sec. 3. The Association shall elect a President for the next succeeding year who shall remain President-elect for one year preceding his assumption of the office of President. While President-Elect he shall be ex-officio a member of the Council and of all other bodies and committees of which the President is an ex-officio member.

Sec. 4. No delegate during his term of service as delegate shall be eligible to any office named in Section one, except that of Councilor, and no person shall be elected President, President-Elect, Vice-President, and Councilor who has not been a member of the Association for two years next preceding his election. Every delegate and alternate to the House of Delegates of the California Medical Association must have been a member of the Association for one year prior to his election.

A Article VII—Council

The Council shall consist of the elected Councilors and ex-officio the President, the President-elect and the Vice-President. Besides its duties mentioned in the By-Laws, it shall constitute the Finance Committee of the House of Delegates. Five Councilors shall constitute a quorum.

A Article VIII—Sections and District Societies

The Council shall provide for a division of the work of the Association into appropriate sections. It shall assist in the organization of such district societies as will promote the best interests of the profession, such societies to be composed exclusively of members of county societies.

* Regarding Constitution and By-Laws here printed, see Editorial on page 225 and Official Notes on page 229.

A Article IX—Funds and Expenses

Funds shall be raised by equal per capita assessments upon the active members of each county society, and by such donations, voluntary subscriptions, proceeds from publications and such other earnings as are acceptable to the Council. The amount of assessments shall be fixed by the House of Delegates by a two-thirds vote thereof of those present. The fiscal year of the society shall be from January 1 to December 31. The number of members in good standing in each county society on the first day of October of each year shall be taken as the basis for the assessment for the following fiscal year.

A Article X—Referendum

The House of Delegates, in regular or special session assembled, the Council, or the Association in general session, may by a two-thirds vote submit any question in such form as they may approve, to all of the members of the Association by mail, and a majority of the vote so cast by mail by the members of this Association shall bind the Association and all county societies thereof upon the question presented.

A Article XI—The Seal

The Association shall have a common seal, with such inscription thereon as the Council may prescribe.

A Article XII—Amendments

The House of Delegates at any annual meeting may amend any article of this Constitution by a two-thirds vote of the delegates present, provided that such amendment shall have been presented in open meeting at the previous annual meeting, and that it shall have been published twice during the year in the Journal of this Association, or sent officially to each county society at least two months before the meeting at which final action is to be taken.

BY-LAWS

A Chapter I—Membership

Section 1. All members of county societies—active, associate, and affiliate—shall by virtue of such membership hold corresponding membership in the California Medical Association upon certification by the Secretary of the county society of such membership and receipt by the Secretary of this Association of the assessment for the fiscal year.

Sec. 2. Any person who is under sentence of suspension or expulsion from a county society, or whose name has been dropped from its roll of members, shall not be entitled to any of the rights or benefits of this Association, nor shall he be permitted to take part in any of its proceedings, nor receive its publications, until he has been relieved of such disability.

Sec. 3. It shall be the duty of the Secretary of each county society to furnish the Secretary of the Association before the first day of March of each year a list by names and addresses of all members in good standing on the first day of January of each year, and to notify the Secretary of this Association monthly of all changes in membership of the constituent society, with corresponding change of address.

Sec. 4. Any physician residing in a county in which there is no county society may make application and be admitted to the county society most convenient to the county in which he resides, subject to the requirements of membership in said county.

Sec. 5. A member who changes his residence from the county through whose society he holds membership in this Association to another county in which there is a county society, is eligible to membership in the component county society of his new residence on the presentation of a transfer card, and an official statement that his dues have been paid in full in the society in which he holds membership; provided that no evidence which would otherwise disqualify him for membership arise. He shall forfeit his membership in this Association one year after

change of location unless he becomes a member of the society of the county to which he has moved. Any member who has heretofore changed his residence as aforesaid shall have one year after the date of adoption hereof to comply with the provisions of this section.

A Chapter II—Meetings

Section 1. The annual meeting of this Association shall be held at such time and place as the Council shall appoint.

Sec. 2. Special meetings of the House of Delegates may be called by the President upon request so to do by a majority vote of the Council, and shall be called by him upon the written request of at least twenty delegates, provided that all members of the House of Delegates are notified as to the time, place and object of the proposed meeting, by written notice, given at least ten days prior thereto.

Sec. 3. General Sessions, Sessions of the House of Delegates and Section Meetings except as otherwise provided by the Constitution and these By-Laws—the time for the convening of each thereof, the number of meetings, duration and place thereof, shall be fixed by the chairman of the committee on scientific program, with the approval of the Council.

A Chapter III—House of Delegates

Section 1. The House of Delegates shall be the legislative body of the Association, and shall consist of the officers of the Association and the regularly elected and properly certified delegates or alternates representing their several county societies.

Sec. 2. Each county society shall be entitled to send to the House of Delegates each year one delegate and one corresponding alternate for every fifty members as of the first day of October of the preceding year, and one for each major fraction thereof, provided that each county society which has made its annual report and paid its assessment, as provided in this Constitution and By-Laws, shall be entitled to at least one delegate and one alternate.

Sec. 3. Twenty-five delegates shall constitute a quorum.

Sec. 4. Delegates and alternates shall be elected for a term of two years, and those societies entitled to more than one representative shall arrange such election so that one-half of their delegates and alternates, as near as may be, shall be elected each year.

Sec. 5. The House of Delegates shall approve all memorials and resolutions of whatever character issued in the name of the Association before the same shall become effective.

Sec. 6. The sessions of the House of Delegates shall be open to all members of the Association.

Sec. 7. The House of Delegates shall have authority to appoint committees for special purposes from among members of the Association who are not members of the House of Delegates. Such committees shall report to the House of Delegates, and may be present and participate in the discussion of their reports.

Sec. 8. The House of Delegates shall elect representatives to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body.

A Chapter IV—Duties of Officers

Section 1. The President shall preside at the meetings of the Association and of the House of Delegates; he shall appoint all committees not otherwise provided for; and perform such other duties as custom and parliamentary usage may require.

Sec. 2. The Vice-President shall assist the President in the discharge of his duties and act for him in his absence.

Sec. 3. The Secretary shall attend the general meetings of the Association; the meetings of the House of Delegates and of the Council, and shall keep the minutes of their respective proceedings. He shall be ex-officio

Secretary of the Council. He shall be custodian of all records, books and papers belonging to the Association, and shall keep account of and promptly turn over to the depository all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the annual meetings. He shall, with the co-operation of the secretaries of the county societies, keep an approved register of all the members of the Association by counties, noting on each his status in relation to his county society. He shall aid the Councilors in the organization and improvement of the county societies and in the extension of the usefulness of this Association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and communities of their appointment and duties. He shall employ such assistants as may be authorized by the Council, and shall make an annual report to the House of Delegates. He shall supply each county society with the necessary blanks for making its annual report; he shall keep an account with the county societies, charging against each society its assessment, and collect the same. He shall in like manner keep an account with each member as to any assessment or assessments levied directly upon each member, and collect the same. As chairman of the committee on scientific program, he shall prepare and issue all programs. He shall perform such other duties as the Council may direct. He shall be appointed by and have his compensation fixed by the Council.

Sec. 4. The depository of the Association shall be a bank or trust company to be selected by the Council. All funds received for the Association by any officer or agent thereof shall be promptly paid to the Secretary and by him deposited with the depository. The depository shall pay out the money of the Association only upon a check or draft signed by the Secretary and countersigned by the chairman or other designated member of the Council. The Secretary shall issue such checks or drafts only upon vouchers approved by the Auditing Committee and signed by all members thereof. A revolving fund in such amount as may from time to time be fixed by the Council shall be left with the Secretary, from which fund immediate cash demands may be paid.

A Chapter V—Council

Section 1. The Council shall meet on the day preceding the annual meeting of this Association and daily during its sessions, and it shall also hold at least three other meetings during the year, at least one of which shall be held in the southern part of the State. Special meetings may be called by the chairman at any time, and he shall call a special meeting upon the written request of at least three councilors, provided written notice of the time, place and object of the proposed special meeting be given by the Secretary to all members of the Council not less than seven days prior to such meeting. At the meeting held on the last day of the annual meeting of the Association the Council shall reorganize and shall elect a chairman for the ensuing year. The chairman shall make an annual report to the House of Delegates.

Sec. 2. The Council shall have power to invest the funds of the Association, and to do and perform all acts and transact all business for and on behalf of the Association when the House of Delegates is not in session. It shall also have power to delegate such powers and duties as it may determine to the Executive Committee hereinafter provided for.

Sec. 3. In the event of a vacancy in the Council, or in any elective or other office not otherwise provided for, the Council shall fill the vacancy until the next annual election or other regular selection, as provided for in the Constitution and By-Laws.

Sec. 4. The Council shall provide for the publication and distribution of a periodical to be known as the "Journal of the California Medical Association," or some other satisfactory title to be determined by the Council, and such other publications as may be necessary, and shall have authority to engage an editor at such compensation as it may deem proper, who shall be responsible to the Council, and who shall edit and conduct the journal

and other publications in a manner and under conditions satisfactory to the Council.

Sec. 5. The Council shall engage, and arrange for the compensation of, a secretary, who shall be the executive officer of the Council and of the Society.

Sec. 6. The Council shall secure the services of competent public accountants and cause them to audit the accounts of all officers, committees and agents of the Association at least once a year, and shall present a report to the House of Delegates.

Sec. 7. The Council shall divide the State into Councilor districts, according to the number of districts fixed by Article VI, Section 1, of the Constitution, specifying what counties each district shall include. Whenever the number of delegates, as provided in Chapter III, Section 2, exceeds one hundred, it shall make a reapportionment that shall bring the number of delegates within this limit. Such reapportionment shall take effect immediately following the annual meeting at which the reapportionment is approved by the House of Delegates.

Sec. 8. The Council may, upon application, issue charters to county societies organized to conform to the letter and spirit of the Constitution and By-Laws, rulings and regulations of the Association, and such county society shall not amend or change the same, contrary thereto. The Council may, upon application, issue similar charters to other societies of physicians, otherwise qualified to become members of a county society and of this Association, where by reason of geographical or other conditions county organizations are not feasible or calculated to promote the best interests of the profession or of the public. Said district county society shall in like manner be organized to conform to the letter and spirit of the Constitution and By-Laws, rulings and regulations of this Association, and such county societies shall not change or amend the same contrary thereto.

Sec. 9. The Council, when the best interest of the Association and profession will be promoted thereby, may organize district medical societies, and members of the county societies, and no others, may be members of such district societies.

Sec. 10. The Council may promote and cause to be organized societies of medical or premedical students in any approved teaching institution in this State, with such affiliation with this Association and under such control as it may deem advisable and proper.

Sec. 11. The Secretary, with the written authorization of the chairman of the Council, may submit any urgent question to the Council by mail ballot and the result as shown by such ballot shall be binding.

Sec. 12. The chairman of the Council shall annually appoint a committee of two who shall audit the accounts of the Association at least once every month. Said Auditing Committee shall elect a chairman.

Sec. 13. The Council shall appoint an attorney-at-law in good standing, practicing his profession at San Francisco, to act as general attorney for the Association, and an attorney practicing his profession at Los Angeles to act as assistant general attorney. The general attorney shall, so far as possible, attend the sessions of the Council and of the House of Delegates and shall generally advise and counsel with the councilors and officers of the Association. The general attorney or assistant general attorney shall have charge of all actions for malpractice against individual members of the Association on behalf of such members whenever their defense is authorized by the Association, through the Council, the Executive Committee or the Secretary thereof.

Sec. 14. All questions cognizable by this Association of more than local importance whether involving interpretation of ethics, definition of policy, decision in controversy, financial, organizational or other matter not provided for by the Constitution and By-Laws which arise between annual sessions shall be referred to the Council for action, and its action shall be binding upon the Association and its component member societies, provided that the action by the Council is subject to review by the House of Delegates or by a general referendum.

Sec. 15. The Executive Committee of the Council shall consist of the President, the President-elect, the Vice-President of the Association, the chairman of the Council,

the chairman of the Auditing Committee, the Secretary-Editor, and the general attorney. The committee shall elect its own chairman, and the Secretary shall act as secretary thereof. It shall keep a record of its proceedings and report them to the Council, and all of its proceedings shall be subject to the approval of the Council.

A Chapter VI—Order of Procedure

The Program Committee shall consist of the Secretary of the Association and four members of the Association who shall be elected by the House of Delegates, one each year to serve for four years. The Secretary of the Association shall be the chairman thereof. It shall determine the character and scope of the scientific proceedings of the Association, subject to the instructions of the Council, and shall provide for and fix the order of business at the sessions of the general meeting, the sessions of the House of Delegates and the sessions of each section.

A Chapter VII—County Societies

Section 1. Each county society of this Association, which has adopted principles of organization not in conflict with the Constitution and By-Laws, rulings and procedures of this Association, shall, on application, receive a charter from and become a component part of this Association. Such charters shall provide that the Constitution and By-Laws and procedures of the component member society shall not be amended in any way which might conflict with the Constitution and By-Laws of the American Medical Association and of this Association as originally drawn or as modified by competent authority, except by and with the written approval of the Council of this Association.

Sec. 2. Charters shall be issued only by the House of Delegates after approval by the Council, and shall be signed by the President and Secretary of this Association. The House of Delegates, upon recommendation of the Council, shall have authority to revoke the charter of any county society whose actions are in conflict with the letter or spirit of the Constitution and By-Laws, policies and procedures of this Association.

Sec. 3. Only one medical society shall be chartered in any one county, provided that the physicians in a portion of any one county who can show adequate reasons satisfactory to the Council therefor may be authorized to join some other county society as elsewhere provided for in this Constitution and By-Laws.

Sec. 4. Each county society shall judge the qualifications of its members. However, as such societies are integral parts of this Association and all the basis of membership in the American Medical Association, it is necessary that the qualifications meet the minimum requirements of the State and National organizations. These minimum requirements are that to be eligible for election as an active or affiliate member the applicant must hold the degree of Doctor of Medicine from an institution of learning accredited at the time of conferring such degree by the American Medical Association, and must be licensed to practice medicine and surgery in the State of California. Every associate member must hold the degree of Doctor of Medicine from an institution of learning accredited at the time of conferring such degree by the American Medical Association, and must not be licensed to practice medicine and surgery in California, and hence be ineligible to active membership. A member must not practice or claim to practice or lend his support, co-operation, or in any other way endorse any exclusive system of medicine or any person practicing the same. He shall be honorable and ethical in his conduct and shall subscribe to the principles of medical ethics of the American Medical Association, and shall recognize the Council of this Association as the proper authority to interpret any doubtful points in ethics. Every applicant for membership in a county society shall fill out and sign in duplicate the application blanks provided by the society which prescribe the necessary qualifications for membership. One copy of each such application shall be promptly forwarded to the office of this Association.

Sec. 5. Any physician who may feel aggrieved by the action of the society of his county in refusing him mem-

bership, or in censuring, suspending or expelling him, shall have the right to appeal to the Council within the period of three months next succeeding the date of such action of his county society, which appeal shall be in writing and filed within the said period in the office of the Secretary of this Association. Within a period of three months after a decision by the Council thereon, any party interested may appeal to the House of Delegates, whose decision in any case shall be final. Such appeal shall, in like manner, be in writing and filed within said period of three months at the office of the Secretary of this Association.

Sec. 6. In hearing appeals, the Council shall review all questions involved and may appoint committees from its own number or any notary public to act as referee for the purpose of taking evidence upon any point or question which shall thereafter be submitted to the full membership of the Council, and it shall use any lawful means in its judgment as will best and most fairly present all the facts involved. In every case of an appeal, the Council as a board and as individual councilors, shall exert all proper efforts at conciliation and compromise prior to any hearing being held upon the appeal.

Sec. 7. When a member in good standing in a county society moves to another county or other jurisdiction in this State, his name, on request, shall be transferred, without cost, but upon assuming such financial obligation as shall be deemed proper by the county society to which he is transferred.

Sec. 8. A physician living on or near a county line may hold his membership in that county most convenient for him to attend, provided that the consent of the society of the county in which such physician may reside be first obtained, and also the consent of the society which he desires to join.

Sec. 9. The Secretary of each county society shall keep a roster of its members and of the non-affiliated registered physicians of the county, on which shall be shown the full name, address, school and date of graduation, date of license to practice in this State and such other information as may be deemed necessary. In keeping such roster the Secretary shall note and at once notify the State Secretary of any changes in the personnel of the profession, by death, by resignation, or by removal to or from the county, and in making his annual report he shall account for every physician who has lived in the county during the year. The Secretary of each county society shall make a monthly report to the Secretary of this Association upon such forms and including such subjects as the Council may authorize.

Sec. 10. The Secretary of each county society shall forward its assessments, together with its roster of officers and members, list of delegates and alternates and list of non-affiliated physicians of the county to the Secretary of this Association before the first day of March of each year. Only those delegates and alternates who are duly elected and certified to the State Secretary before March 1 may represent their society in the House of Delegates.

Sec. 11. Any county society which fails to pay its assessments or make the report required on or before March 1 shall be held as suspended, and none of its members, delegates or alternates may participate in any of the business or proceedings of the Association or of the House of Delegates during the annual session of that year, nor thereafter, until all requirements for membership have been met.

Sec. 12. No member of a county society shall be deprived of his membership unless by his own act, except by a three-fourths affirmative vote of all the regular membership in good standing of the county society to which he belongs present and voting at a regular meeting, thereof, and only after at least six weeks' written notice personally delivered to the member, has been served upon him fully stating the charges against him, and only after such member shall have been given full opportunity to be heard in his own defense at such meeting; but a member shall be dropped on the revocation of his license to practice by the duly constituted and legal authority of the State of California vested at the time with the power to revoke such license.

Sec. 13. When a member resigns his membership in a county society, he shall thereby forfeit all right and title

to any share in the privileges and property of the California Medical Association.

Sec. 14. Any county society may, in its discretion, elect active, associate, and affiliate members under and pursuant to the provisions of Article III of this Constitution. Any county society may also elect honorary members of its own society, but such honorary members shall not thereby be honorary members of this Association.

A Chapter VIII—Miscellaneous

Section 1. The principles of medical ethics of the American Medical Association are adopted as the principles of medical ethics of this association and are made part of the charter provisions for county societies. Interpretation of points in ethics about which there may be any controversy shall be submitted to the Council, of the State Association for ruling and its rulings shall be final.

Sec. 2. New members who join a county society after July 1 shall pay only one-half the regular annual assessment for such fiscal year.

Sec. 3. The deliberations of this Association shall be governed by parliamentary usage as contained in Roberts' Rules of Order, when not in conflict with this Constitution and By-Laws.

A Chapter IX—Amendment to By-Laws

Section 1. The House of Delegates may amend any chapter or section of the By-Laws by a two-thirds affirmative vote of the delegates present and voting; provided, that such amendment has been submitted in writing and laid on the table for twenty-four hours previous to being voted upon.

Sec. 2. The Constitution and By-Laws heretofore governing this Association as the Medical Society of the State of California are hereby repealed and this Constitution and By-Laws shall be in full force and effect immediately after they are declared duly adopted.

II

This Section II is a proposed Constitution and By-Laws, adapted from the model constitution and by-laws suggested for state medical societies, by the American Medical Association. The modified draft here printed was introduced in written form in the House of Delegates by the Special Committee on Revision (Dr. G. H. Kress, chairman), at the 1927 annual session at Los Angeles.

(For convenience of reference all the Articles of the proposed Constitution and Chapters of the proposed By-Laws belonging to this set II are indicated by the letter B.)

Foreword by Committee

March 30, 1927

To the House of Delegates of the California Medical Association:

Doctors:

In December, 1926, Dr. O. D. Hamlin, chairman of the Council, appointed a committee on revision of the Constitution and By-Laws, with instructions to submit its recommendations to the House of Delegates. Its membership is given below.

In taking up its work, the committee found that the American Medical Association, through its House of Delegates, had prepared a form of constitution and by-laws in 1925, and that a number of the constituent state associations had adopted it with modifications to suit their own special needs.

A study of this form revealed that it very readily could be used by the California Medical Association.

The proposed revision which is here submitted is based on this A. M. A. model, incorporating practically all of

our present rules. There is no radical departure therein from our present Constitution and By-Laws. Changes which have been made will be dealt with in a separate report by the chairman of the committee.

Our state organization is a somewhat loosely knit association, and yet the welfare of organized medicine in California is a reflex of the manner in which it functions. We meet once a year in convention. The membership as a whole acts then in its scientific activities and sections. At the same time, the membership as a whole, delegates to representatives (delegates) from the county units the responsibility of going over the major business of the year; provides that these delegates shall elect a number of members of the society to a board of directors (the Council), which acts for the Association and its House of Delegates, during the intervals between annual meetings.

In an association as large as that of California, it is very necessary that a practical, centralized, elastic method of organization shall exist, if best results are to be attained. We live in a day in which efficiency is a slogan in daily living. In associations, as well as with individuals, practical methods of procedure which have stood the test of experience and time, provide the best basis for successful end-results. This revision keeps this fact in mind.

Respectfully submitted,

The Committee on Revision of Constitution and By-Laws.

By SOUTHERN SECTION:

George H. Kress, General Chairman
W. T. McArthur, Subchairman
William Duffield

NORTHERN SECTION

George Reinle, Subchairman
Emmet Rixford
John Woolsey

GENERAL SECTION:

Charles L. Curtis, Subchairman
Fred R. DeLappe
Junius B. Harris

CONSTITUTION

B Article I—Name of Association

The name and title of this organization shall be the California Medical Association.

B Article II—Purpose

The purposes of this Association are to promote the science and art of medicine, the protection of public health, and the betterment of the medical profession; and to unite with similar organizations in other states and territories of the United States to form the American Medical Association.

B Article III—Component Societies

Section 1. Component Societies shall consist of those county medical societies which hold charters from this Association.

Sec. 2. The terms, county medical society and component county medical society, shall be deemed to include all county medical societies and academies of medicine now in affiliation with this Association, or which may hereafter be organized and chartered by the House of Delegates of this Association.

B Article IV—Composition of the Association

This Association shall consist of members who shall be the members of the component county medical societies who have been certified to the headquarters of this Association, and whose dues and assessments for the current year have been received by the Secretary.

B Article XII—Incorporation

To aid in carrying out the objects of the Association, the House of Delegates at any session of any regular or special meeting thereof, may by a two-thirds vote of the members thereof present and acting, authorize, empower and direct the Council to cause the formation and organization of a nonprofit corporation under the laws of the state of California, without capital stock, with such incor-

porators, name, purposes, objects, principal place of business, term, number of directors and directors to serve for the first year and until their successors are elected, and with such provisions regarding the voting power and property rights and interests of the members of the corporation and such further provisions in the Articles of Incorporation thereof, and with By-Laws and composed of such members representing this Association as the Council shall prescribe, fix and determine. The House of Delegates may at its option in connection with the granting and giving of such authority, power and direction to the Council, prescribe, fix and determine any or all of such matters pertaining to the said corporation, its Articles of Incorporation and any provision thereof, By-Laws and membership, and its action thereon shall bind the Council; and the House of Delegates at any session of any regular or special meeting thereof may by a two-thirds vote of the members thereof present and acting, authorize, empower and direct the Council to grant, assign, transfer, convey and deliver to the said corporation upon the formation thereof without any consideration therefor, any property, real or personal, of the Association, which authorization, power and direction may be given prior or subsequent to the formation and organization of said corporation.

B Article V—House of Delegates

The House of Delegates shall be the legislative body of the Association, and shall consist (1) of delegates elected by the component county societies, and (2) the officers of the Association enumerated in Section 1 of Article IX of this Constitution.

B Article VIII—Sessions and Meetings

Section 1. The Association shall hold an annual session during which there shall be at least two general meetings, open to all registered members, delegates, and guests.

Sec. 2. The time and place for holding each annual session shall be fixed by the Council.

Sec. 3. Special meetings of the Association may be called by a three-fourths vote of the Council.

Sec. 4. Special meetings of the House of Delegates may be called by a two-thirds vote of the Council, or upon petition by fifty delegates.

B Article IX—Officers

Section 1. The officers of this Association shall be a President, a President-Elect, a Secretary-Treasurer, a Speaker of the House of Delegates, and fifteen Councilors.

Sec. 2. The officers, except the Councilors, shall be elected annually. The terms of the Councilors shall be for three years. Three district councilors and two councilors-at-large shall be elected each year.

The Secretary-Treasurer shall be elected by the Council. All these officers shall serve until their successors are elected and installed.

B Article VI—Council

The Council shall be the Board of Trustees of this Association.

The Council shall have full authority and power of the House of Delegates between annual sessions, unless the House of Delegates shall be called into session as provided in the Constitution and By-Laws.

It shall consist of the Councilors, the President, the President-Elect, the Speaker of the House of Delegates, the Secretary-Treasurer of the Association. Ten of its members shall constitute a quorum.

B Article VII—Sections and District Societies

The House of Delegates may provide for a division of the scientific work of the Association into appropriate Sections, and for the organization of such Councilor District Societies as will promote the best interests of the

profession, such societies to be composed exclusively of members of component county societies.

B Article X—Funds and Expenses

Funds shall be raised by an equal per capital assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates.

Funds may also be raised by voluntary contributions, from the Association's publications and in any other manner approved by the House of Delegates.

The Council shall submit an annual budget to the House of Delegates. All resolutions providing for appropriations shall be referred to the Council and all appropriations approved by the Council shall be included in the annual budget.

B Article XI—Referendum

At any general meeting of the Association it may, by a two-thirds vote, order a general referendum upon any question pending before the House of Delegates. The House of Delegates may, by a vote of its members, submit any question to the membership of the Association for its vote. A majority vote of all the members of the Association shall determine the question.

B Article XIII—Seal

The Association shall have a common seal. The power to change or renew the seal shall rest with the House of Delegates.

B Article XIV—Amendments

The House of Delegates may amend any article of this Constitution by a two-thirds vote of the Delegates present at any Annual Session, provided that such amendment shall have been presented in open meeting at the previous Annual Session, and that it shall have been published twice during the year in the bulletin or journal of this Association, or sent officially to each component society at least two months before the meeting at which final action is to be taken.

BY-LAWS

B Chapter I—Membership

Section 1. The name of a physician on the official roster of this Association, after it has been properly reported by the secretary of his county society, shall be prima facie evidence of membership and of his right to register at the Annual Session.

Sec. 2. No person who is under sentence of suspension or expulsion from any component society of this Association, or whose name has been dropped from its roll of members, shall be entitled to any of the rights or benefits of this Association.

Sec. 3. Each member in attendance at the Annual Session shall register, when his right to membership has been verified by reference to the records of this Association. No member shall take part in any of the proceedings of the Annual Session until he has complied with the provisions of this section of the By-Laws.

B Chapter II—General Meetings

Section 1. The General Meetings shall be open to all registered members and guests. Before them, at such time as may have been arranged, shall be delivered the annual addresses of the President and of the President-Elect and the annual orations.

Sec. 2. No address or paper, except those of the President, the President-Elect and the annual orations, shall occupy more than twenty minutes in its delivery. No member, except by unanimous consent, shall speak more than once in the discussion of any paper nor longer than five minutes at any one time.

Sec. 3. All papers read before this Association shall be its property. Each paper, when it has been read, shall be deposited with the Secretary. Authors of papers read

before this Association shall not cause them to be published elsewhere, except with the consent of the journal of this Association.

B Chapter III—House of Delegates

Section 1. The House of Delegates shall meet annually at the time and place of the Annual Session.

Sec. 2. Each component county society shall be entitled to send each year one delegate or one corresponding alternate to the House of Delegates for each fifty full-paid members or major fraction thereof in this Association, as of date of the first day of October of the preceding year; provided, however, that each county society shall be entitled to at least one delegate or one corresponding alternate.

Sec. 3. Thirty-five delegates shall constitute a quorum of the House of Delegates. All meetings of the House of Delegates shall be open to members of the Association.

Sec. 4. The term member in this Constitution and By-Laws refers to an active member, that is, one who has the right of suffrage and all other rights and privileges of the Association.

In addition to such active members, there shall be associate members, as follows:

Affiliate members shall be elected from those Doctors of Medicine engaged in teaching or research work or holding position in federal service or otherwise, who are not licensed to practice medicine and surgery in the state of California and hence are ineligible to active membership. These members shall have all the rights and privileges of active members except the right to vote or hold office. Their dues to the State Association shall be one-half the dues of active members, and their dues to their county society shall be fixed by such county society.

Retired members of the California Medical Association may be elected by the House of Delegates; or by the Council, if the nomination is officially sent to the Council by a component county society.

Sec. 5. From among members of the House of Delegates the Speaker of the House of Delegates, for the purpose of expediting proceedings, shall appoint committees, as follows:

(a) A Committee on Credentials, of three members, one to be designated as chairman. The Secretary shall give this committee a list of component county societies, showing the total membership, as of October 1 of the preceding year. This committee shall ask each delegate and alternate to present his written credentials, but shall accept the official written list submitted by the Secretary of any component society; provided that such written list be sent to the State Association Secretary at least seven days before the beginning of the annual session.

(b) Reference Committee, of five members, one to be designated as chairman. To this committee shall be referred the addresses of the President, President-Elect, invited speakers at the general session, reports of the Council, auditors, changes in the Constitution and By-Laws, and all resolutions submitted to the House of Delegates. At the second session of the House of Delegates the committee shall present a report in writing, dealing with and making recommendations or comment on such of these matters as was desirable. The report of the committee shall first be read as a whole; and the House of Delegates shall then vote on this report, section by section.

(c) An Auditing Committee of three members, consisting of the chairman of the Executive Committee and two other members of the Council. The chairman of the Executive Committee shall be chairman of the Auditing Committee. This committee shall examine and pass on all vouchers for expenditures submitted by the Secretary-Treasurer. The signatures of at least two members of the Auditing Committee shall be necessary on vouchers before checks or drafts can be drawn by the Secretary-Treasurer, as otherwise provided.

Sec. 6. The House of Delegates shall elect delegates to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that body.

Sec. 7. The House of Delegates, upon recommendation of the Council, shall divide the state into Councilor Districts, specifying what counties each district shall include,

and, when the best interest of the Association and the profession will be promoted thereby, organize in each a district medical society, of which all members of the component county societies shall be members.

Sec. 8. The House of Delegates shall have authority to appoint committees for special purposes from among members of the Association who may or may not be members of the House of Delegates. Such committees shall report to the House of Delegates, and may be present and participate in the debate on their reports.

Sec. 9. The House of Delegates shall approve an annual budget of expense to be submitted to it by the Council.

Sec. 10. It shall approve all memorials and resolutions issued in the name of the Association during an annual session before they shall become effective.

B Chapter IV—Election of Officers

Section 1. The election of officers shall be the first order of business of the House of Delegates at the second meeting of the House.

Sec. 2. All elections of officers shall be by ballot; provided, that by unanimous consent ballot election may be waived.

A majority of the votes cast shall be necessary to elect, except for delegates and alternates to the American Medical Association. In case no nominee receives a majority of the votes on the first ballot, the nominee receiving the lowest number of votes shall be dropped and a new ballot taken. This procedure shall be continued until one of the nominees receives a majority of all the votes cast, when he shall be declared elected. In case no delegates or alternates for the American Medical Association receive on the first ballot a majority of the vote, the nominees shall be declared elected in the order of the highest number of votes received, until the allotted number shall have been chosen. In case of a tie vote for delegate or alternate, the tie shall be determined by lot.

Sec. 3. Delegates shall not be eligible for election to any of the offices named in the Constitution, except that of Councilor.

B Chapter V—Duties of Officers

Section 1. The President shall preside at all meetings of the Association.

He shall appoint all committees not otherwise provided for; he shall deliver an annual address at such time as may be arranged, and shall perform such other duties as custom and parliamentary usage may require.

He shall be the real head of the profession of the state during his term of office, and, as far as practicable, shall visit, by appointment, the various sections of the state and assist the Councilors in building up the county societies, and in making their work more practical and useful. The Council shall decide what portion of the expenses incurred on his official visits shall be paid by the Association.

He shall be a member of a Council for a period of one year immediately succeeding his term of office. He shall be ex-officio a member of all committees of the Association.

Sec. 2. The President-Elect shall be a member of the Council ex-officio, shall act for the President in his absence or disability. If the office of President should become vacant the President-Elect shall succeed to the presidency.

Sec. 3. The Secretary-Treasurer shall attend the General Meetings of the Association, the meetings of the House of Delegates, of the Council and of the Executive Committee, and shall keep minutes of their respective proceedings in separate record books.

He shall be custodian of all record books and papers belonging to the Association.

He shall provide for the registration of the members and delegates at the Annual Session.

He shall, with the cooperation of the secretaries of the component societies, keep a card-index register of all the legal practitioners of the State by counties, noting on each his status in relation to his county society, and shall transmit a copy of this list to the American Medical Association, transmitting to its secretary each month a report containing the names of new members and the names of those dropped from the membership roster during the preceding month.

He shall conduct the official correspondence, notifying

members of meetings, officers of their election and committees of their appointment and duties.

He shall employ such assistants as may be ordered by the Council and shall make an annual report to the House of Delegates.

He shall supply all component societies with the necessary blanks for making their annual reports, and shall collect from them the regular per capita assessments and deposit the same in such depository banks as may be designated as such by the Council. The amount of his salary shall be fixed by the Council.

He shall give bond in such sum as may be decided upon by the Council. The Association shall pay the premium on the said bond. He shall demand and receive all funds due the Association, together with bequests and donations.

He shall subject his accounts to such examination as the House of Delegates may order, and he shall annually render an account of his doings and of the state of the funds in his hands.

He shall pay out the money of the Association only upon a check or draft signed by the Secretary-Treasurer, or the acting Secretary-Treasurer, if such officer has been appointed by the Council, and countersigned by the chairman, or other designated member of the Council, elected by the Council.

The Secretary-Treasurer shall issue such checks or drafts only upon vouchers approved and signed by at least two of the three members of the Auditing Committee, as otherwise provided.

Sec. 4. The Speaker of the House of Delegates shall preside at the meetings of the House and shall perform such other duties as parliamentary usage may require. He shall appoint all committees authorized by the House of Delegates, unless otherwise provided.

He shall be ex-officio, a member of the Council.

B Chapter VIII—Dues and Assessments

Section 1. The annual dues and assessments shall be determined by the House of Delegates, and shall be levied per capita on the members of the Association.

They shall be payable on or before January 1, of the year for which they are levied.

The Secretary of each component society shall cause to be collected and shall forward to the offices of the Association the dues and assessments for its members, together with such date as shall be required for a record of its officers and membership.

Any member whose name has not been reported for enrolment and whose dues for the current year have not been remitted to the Secretary of this Association on or before April 1, shall stand suspended until his name is properly reported and his dues for the current year properly remitted.

Sec. 2. The record of payment of dues and assessments on file in the offices of the Association shall be final as to the fact of payment by a member and as to his right to participate in the business and proceedings of the Association and of the House of Delegates.

Sec. 3. Any county society which fails to make the reports required, at least thirty days before the Annual Session of the State Association, shall be held suspended, and none of its members or delegates shall be permitted to participate in any of the proceedings of the Association or of the House of Delegates.

Sec. 4. For the purposes of medical defense, in case such medical defense is being maintained at any particular time as one of the activities of the Association, a member shall be deemed in arrears from and during the period extending from January 1 of the current year until his dues and assessments shall have been received at the offices of the Association, having been remitted by the Secretary of the component society of which he is a member.

B Chapter VI—Council

Section 1. The Council shall meet on the day preceding the Annual Session, and daily during the Session and at

such other times as necessity may require, subject to the call of the chairman or on petition of three Councilors.

It shall meet on the last day of the Annual Session of the Association to organize.

It shall make an annual report to the House of Delegates.

Sec. 2. Each District Councilor shall be organizer, peacemaker and censor for his district.

He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exists, for inquiring into the condition of the profession, and to keep in touch with the activities of and to aid in the betterment of the component societies of his district.

He shall make an annual report of his work, and of the condition of the profession of each county in his district at the Annual Session of the House of Delegates.

The necessary traveling expenses incurred by each Councilor in the line of duties herein imposed either in visitation of component county societies, attending Council or Executive Committee meetings and so on, may be allowed on a proper itemized statement, according to such limitations as the Council may deem wise to adopt, but this shall not be construed to include his expense in attending the Annual Session of the Association.

Sec. 3. The Council shall be the executive body of the House of Delegates and between sessions shall exercise the power conferred on the House of Delegates by the Constitution and By-Laws.

The Council shall be the Board of Censors of the Association. It shall consider all questions involving the right and standing of members, whether in relation to other members, to the component societies, or to this Association. All questions of an ethical nature brought before the House of Delegates or the General Meeting shall be referred to the Council without discussion. It shall hear and decide all questions of discipline affecting the conduct of members or component societies, on which an appeal is taken from the decision of an individual Councilor. Its decision in all cases, including questions regarding membership in this Association, shall be final.

Sec. 4. Charters shall be issued to county societies only on approval of the Council, and shall be signed by the President and Secretary of this Association.

Upon the recommendation of the Council, the House of Delegates may revoke the charter of any component society whose actions are in conflict with the letter or spirit of this Constitution and By-Laws.

Sec. 5. In sparsely settled sections the Council shall have authority to organize the physicians of two or more counties into societies, to be suitably designated by hyphenated county names, so as to distinguish them from district societies and these societies, when organized and chartered, shall be entitled to all rights and privileges provided for component societies until such counties shall be organized separately.

Sec. 6. The Council shall provide for and superintend the issuance of all publications of the Association, including proceedings, transactions and memoirs, and shall have authority to appoint an editor or editors and such assistants as it deems necessary.

It shall prescribe the methods of accounting and through a committee of three of its members, to be known as a Committee on Auditing and Appropriations, shall audit all accounts of this Association. The Council shall adopt an annual budget providing for the necessary expenses of the Association. A preliminary draft of such budget shall be prepared and presented for its consideration by the Committee on Auditing and Appropriations at the first meeting of the Council following the annual meeting of each year.

Through the Council, it shall submit an annual report to the House of Delegates, which shall specify the character and cost of the publications of the Association, the amount and character of all of its property, and shall provide full information concerning the management of all financial affairs of the Association which the Council is charged to administer.

Sec. 7. The Chairman of the Council, subject to the approval of the Council, shall appoint at least six months

before the annual meeting, a Committee on Arrangements for the annual meeting, one member thereof being designated as the general chairman. This committee shall consist of five members, at least three of whom shall be members of the component society of the county in which the annual meeting is to be held.

The Secretary-Treasurer of the Association shall be ex-officio, also a member of this committee.

As the local Committee of Arrangements this committee shall provide suitable meeting places and shall have general charge of all local arrangements.

The Council shall decide what portion of the income from Commercial Exhibit or other convention sources shall go to the local Committee of Arrangements. Also what share of the expenses shall be borne by the Association.

Sec. 8. The Council shall by appointment fill any vacancy in office not otherwise provided for which may occur during the interval between annual meetings of the House of Delegates; the appointee shall serve until his successor has been elected and has qualified.

Sec. 9. The Council may employ an Executive Secretary, who need not be a physician nor a member of the Association.

Sec. 10. The salaries of all employees of the Association shall be fixed by the Council.

Sec. 11. The Council shall provide such headquarters for the Association as may be required to conduct its business properly.

This committee shall have the right to request the attendance of the Counsel of the Association, at any meetings at which it might desire his presence and advice.

B Chapter VI—Order of Procedure

The committee on scientific program shall consist of the Secretary of the State Association, the editor, the secretaries of the sections on general surgery and general medicine, and three others to be elected by the House of Delegates for a term of three years, one being elected each year. The Secretary of the Association shall be the chairman thereof. It shall determine the character and scope of the scientific proceedings of the Association, subject to the instructions of the Council. (First introduced at 1926 H. D.)

B Chapter VII—Committees

Section 1. The standing committees of this Association shall be as follows:

- (a) An Executive Committee.
- (b) A Committee on Scientific Work.
- (c) A Committee on Public Policy.
- (d) A Committee on Publication.
- (e) A Committee on Medical Defense.
- (f) A Committee on Medical Education and Hospitals.
- (g) A Committee on Medical Economics.

Unless otherwise provided in these By-Laws, each of these committees shall consist of three members, each of whom shall serve for a term of three years. One member of each of these committees shall be nominated annually by the Council, by and with the consent of the House of Delegates, provided that at the fifty-seventh Annual Session one member of each of the foregoing committees shall be appointed for a term of three years, one each for two years, and one each for one year.

To aid it in its work, each committee, if it so desires, with the exception of the Executive Committee, shall have the power to appoint an Advisory Group to its committee, consisting of from two to ten members. Such advisory members, if present at a regular committee meeting, shall not have the right to vote.

Each of these committees shall, each year, at its first meeting following the Annual Session, elect its own chairman and secretary.

The Secretary-Treasurer of the Association, within one month after the Annual Session, shall write the Committee Chairman of the preceding year, to call a meeting for organization and consideration of any business.

Prior to the annual meeting, each of these committees

shall submit a written report to the Council on the work of the committee during the preceding year.

Sec. 2. The Executive Committee shall consist of the President, the President-Elect, the Secretary-Treasurer, the Speaker of the House of Delegates, the Chairman of the Council, the Editor and one other member of the Council appointed by the chairman thereof.

This committee shall elect its own chairman.

This committee shall meet on call of its chairman, or upon written request of two of its members. It shall consider all matters brought to its attention by the Secretary-Treasurer or others of its members, and shall make recommendations for proper action thereon to the Council. It shall take definite action on its own account only in minor matters, or only when the interests of the Association would be apt to be unfavorably involved if no action were taken until the next meeting of the Council.

Sec. 3. The Committee on Scientific Work shall consist of the Secretary-Treasurer, the secretaries of the sections on general surgery and general medicine and three other members to be elected by the Council, each of these three members to serve three years, one being elected each year. The Secretary-Treasurer shall be chairman. This Committee shall determine the character and scope of the scientific proceedings of the Association for each session, subject to the instructions of the Council. At least thirty days previous to each Annual Session it shall prepare and issue a program announcing the order in which papers and discussions shall be presented.

Sec. 4. The Committee on Public Policy shall consist of three members, and the President and the President-Elect.

There shall be a joint meeting of this committee and an auxiliary committee, as provided for in Chapter XI, Section 10 of these By-Laws, held annually, as may be ordered on the call of the chairman or three members of the State Committee. The chairman of the State Committee, and in his absence, the President, shall act as chairman at the joint committee meetings.

Under the direction of the State Committee, the joint committee shall represent the Association in securing and enforcing legislation in the interest of public health and of scientific medicine.

Sec. 5. The Committee on Publication shall consist of three members, and the editor, and the Secretary-Treasurer.

The Committee on Publication shall have referred to it all reports on scientific subjects, and all scientific papers and discussions heard before the Association. It shall be empowered to curtail, abstract or reject papers and discussions. The committee shall have authority to arrange for the publication and distribution of all publications of the Association, subject to the approval of the Council.

Sec. 6. The Committee on Medical Defense shall prepare plans and establish rules for the defense of members of this Association against whom suits for alleged malpractice have been brought.

It may assist in the defense of any member sued for alleged malpractice if the member was in good standing and had complied with the rules of the committee when the service on account of which suit was brought was rendered.

Sec. 7. The Committee on Medical Education and Hospitals shall serve in this state for the Council on Medical Education and Hospitals of the American Medical Association, and shall have referred to it all questions pertaining to hospitals and medical education.

Sec. 8. The Committee on Medical Economics shall investigate matters affecting the economic status of physicians and shall report annually to the House of Delegates such recommendations as may, in its judgment, seem proper.

Sec. 9. Reports of the standing and special committees shall be published in the official journal of the month preceding the date of the Annual Session of this Association, or in a Convention Bulletin, and these reports must be in the hands of the Secretary sixty days in advance of the Annual Session.

B Chapter XI—County Society Membership

Section 1. All county societies now in affiliation with the State Association or those that may hereafter be organized in this state, which have adopted principles of organization not in conflict with this Constitution and By-Laws shall, upon application to the Council, receive charters from this Association, provided that their Constitutions and By-Laws shall have been submitted to the Council and received its approval.

Sec. 2. Only one component medical society shall be chartered in each county.

Sec. 3. Each county society shall judge of the qualifications of its members, subject to review and final decision by the Council of the State Association. Every reputable and legally qualified physician who does not practice, nor profess to practice sectarian medicine, and who is a bona-fide resident of the same county, shall be eligible for election to membership.

A member of a component society whose license has been revoked shall be dropped from membership automatically as of the date of revocation.

The Council of the State Association shall have final authority to expel a member should a component county society fail to do so after being so requested by the Council.

A member of a component county society, practicing in one county and residing in a different county, shall have the right to choose with which of the two component county units he will affiliate as an active member.

A physician living near a county line may hold his membership in that county most convenient for him to attend, on permission of the component society in whose jurisdiction he resides.

Sec. 4. Any physician who may feel aggrieved by the action of the society of his county in suspending or expelling him, shall have the right to appeal to the Council, whose decision shall be final. A county society shall at all times be permitted to appeal or refer questions involving membership to the Council of the State Association for final determination.

Sec. 5. In hearing appeals the Council may admit oral or written evidence as in its judgment will most fairly present the facts, but in the case of every appeal both as a board and as individuals, the Councilors shall, preceding all such hearings, make efforts at conciliation and compromise.

Sec. 6. When a member in good standing in a component county society moves to another county in this state, he shall be given a written certificate of these facts by the Secretary of his society, without cost, for transmission to the Secretary of the society in the county to which he moves. Pending his acceptance or rejection by the society in the county to which he removes such member shall be considered to be in good standing in the county society from which he was certified and in the State Association to the end of the period (respectively) for which his dues have been paid.

Sec. 7. Each county society shall have general direction of the affairs of the profession in the county, and its influence shall be constantly exerted for bettering the scientific, moral and material condition of every physician in the county.

Systematic efforts shall be made by each member, and by the society as a whole, to increase the membership until it includes every eligible physician in the county.

Sec. 8. At some meeting at least sixty days in advance of the Annual Session of this Association, each component county society shall elect one or more delegates and an equal number of alternates therefor to represent it in the House of Delegates of this Association, in accordance with Chapter III, Section 2, of these By-Laws. The Secretary of each county society shall send a list of such delegates and alternates to the Secretary of this Association at least thirty days before the Annual Session. Representation in the House of Delegates shall be contingent on compliance with the foregoing provisions, and the Credentials Committee shall demand compliance therewith.

A delegate who has answered the roll call at a meeting of the House of Delegates cannot have an alternate sub-

stitute for him later on, if the delegate be absent for any reason.

Nor can an alternate or alternates who have answered in lieu of a delegate or delegates, who were absent for any reason, be displaced as a member of the House if such delegate or delegates appear later and wish to function as delegates.

Sec. 9. The Secretary of each county society shall keep a roster of its members, and if no such list is printed by the State Board of Medical Examiners, a list of non-affiliated physicians, in which shall be shown the full name, address, college and date of graduation, date of license to practice in this state, and such other information as may be deemed necessary by Council. He shall send a copy of the program of each county meeting to his district Councilor and to the Secretary-Treasurer.

Sec. 10. The Council of each county society shall appoint or elect three of its members as a member of its auxiliary Committee on Public Policy, designating one as chairman, and the county society secretary shall send the names, and addresses at once to the Secretary of this Association. The Committee on Public Policy of this Association shall formulate the duties of this auxiliary committee and supply each member with a copy. The auxiliary committeemen shall be accountable to their county societies and to the Council for prompt response to and continued cooperation with the Committee on Public Policy of this Association.

B Chapter IX—Ethics

The ethical principles governing the members of the American Medical Association shall govern members of this Association.

B Chapter X—Rules of Order

The deliberations of this Association shall be conducted in accordance with parliamentary usage as defined in Roberts' Rules of Order.

B Chapter XII—Amendments

Section 1. These By-Laws may be amended at any Annual Session by a majority vote of the delegates present at that session, if the proposed amendment has been properly submitted to the House of Delegates and has lain on the table for one day.

Sec. 2. Upon the adoption of this Constitution and these By-Laws, all previous Constitutions and By-Laws are thereby repealed.

III

This Section III contains isolated proposed amendments to the present Constitution and By-Laws, introduced through the Committee on Revision by different members of the California Medical Association in the House of Delegates at the 1927 annual session at Los Angeles, or reintroduced at that time, as submitted in previous annual sessions.

(For convenience of reference the proposed Articles and Chapters belonging to this set III are indicated by the letter C.)

CONSTITUTION

C Article IV—House of Delegates

Section 5. Each component county society shall be entitled to be represented by one delegate and one corresponding alternate and also one delegate and one corresponding alternate for every fifty members as of the first day of October of the preceding year, and one delegate and one corresponding alternate for each fraction of fifty members thereof.

Sec. 6. Each delegate or alternate serving as delegate, who shall attend an annual convention and personally be present and answer roll call for two regular sessions

of the House of Delegates, shall be paid his railroad and pullman fare to and from home to the convention.

C Article VI—Officers

Section 1. The officers of this Association shall be a President, a President-Elect, a Vice-President, seven Trustees, a Speaker and Vice-Speaker of the House of Delegates, and fifteen Councilors, of whom one shall be elected from each of the nine Councilor districts and six at large, two of whom shall be elected from the County of Los Angeles, and four from the remainder of the state. Not more than three Councilors shall be elected from any one Councilor district. These officers, other than trustees, shall be elected by the House of Delegates at the time and in the manner provided in this Constitution and By-Laws.

Sec. 2. The officers, except the Councilors and trustees, shall be elected annually. The terms of the elected Councilors shall be for three years. The terms of the trustees shall be two for three years, two for five years, one for seven years, and two for nine years. The President and the Secretary shall be elected annually. The Council shall elect the trustees at its first meeting held after the annual meeting of the Association. All trustees shall hold office until their successors are elected.

Sec. 3. The Association shall elect a President for the next succeeding year who shall remain President-Elect for one year preceding his assumption of the office of President. While President-Elect, he shall be ex-officio a member of the Council and of all other bodies and committees of which the President is an ex-officio member. The Speaker and Vice-Speaker, who may or may not be members of the House of Delegates, shall be elected for the term of one year, commencing on the adjournment of the annual meeting at which elected.

Sec. 4. The component County Societies shall be grouped in nine Councilor districts. Six Councilors shall be elected at large; two of whom shall be elected from the County of Los Angeles and four from the remainder of the state. Each Councilor district shall be entitled to be represented by one district Councilor for every five hundred members of the Association composing the component county society or societies of such Councilor district and by one district Councilor for any fraction thereof; provided that each Councilor district shall be entitled to be represented by one district Councilor.

Sec. 4a. The component county societies shall be grouped in nine Councilor districts. One Councilor shall be elected from each Councilor district by the delegates elected by the several component county societies forming such Councilor districts, and six Councilors shall be elected at large, two of whom shall be elected from the County of Los Angeles and four from the remainder of the State. Not more than three Councilors shall be elected from any one Councilor district. All Councilors shall serve for a term of three years. As the terms of the Councilors in office expire, elections to fill the vacancies thus created shall be had and for such terms that as soon as may be, the terms of one-third of the Councilors elected from Councilor districts and one-third of the Councilors elected at large shall expire annually.

C Article VII—Officers

Section 1. Any member of the Association in good standing shall be eligible to become an officer to the Society; provided, however, that no member who holds any State office from the State of California or any Federal office from the United States of America shall be eligible, and in the event that any officer during his term shall become a holder of any such office his term as an officer of this Association shall be forthwith concluded, and his office become vacant; provided however, that the provisions thereof shall not affect the term or eligibility for the remainder thereof, of any officer of the Association in office at the time of the adoption of this amendment.

C Article VII—Council

The Council shall consist of the elected Councilors and ex-officio the President, the President-Elect, the Vice-President, the Speaker and the Vice-Speaker of the House of Delegates. Five Councilors shall constitute a quorum.

Section 3. The Council at the first meeting thereof

held after the adjournment of the last session of the House of Delegates at the regular annual meeting thereof shall appoint the Secretary and the Editor and a Field Secretary, who shall act under the direction of the Secretary and whose duties shall particularly concern the economic and scientific problems and welfare of the several component county medical societies and the members thereof, each said officer shall serve for the term of one year.

C Article IX—Funds and Expenses

Funds shall be raised by equal per capita assessments upon the active members of each county society, and by such donations, voluntary subscriptions, endowments and gifts, proceeds from publications, and such other earnings as are acceptable to the Council. The amount of assessments shall be fixed by the Board of Trustees. The fiscal year of the society shall be from January 1 to December 31. The number of members in good standing in each county society on the first day of October of each year shall be taken as the basis for the assessment for the following fiscal year.

C Article XIII—Trustees

Section 1. The Board of Trustees shall consist of seven members, who shall hold, administer, manage and control all funds and properties of the Association.

Sec. 2. No person shall expend or use for any purpose money belonging to the Association without the approval of the Board of Trustees.

Sec. 3. All acts of the Council involving expenditure, appropriation, or use in any manner, of money, or the acquisition or disposal in any manner, of property of any kind belonging to the Association, must be approved by the Board of Trustees.

Sec. 4. The Board of Trustees may formulate rules governing the expenditure of money to meet the necessary running expenses and fixed charges of the Association, as well as such other rules governing its actions as it may deem necessary or desirable. Four members of the board shall constitute a quorum for the transaction of business. The board shall elect its own chairman and vice-chairman, but the Secretary of the Association shall be the secretary of the board.

Sec. 5. The Trustees shall hold quarterly meetings at such time and place as the board shall designate, but special meetings may be called at any time by the President, and shall be called by him, on the request of two or more trustees.

Sec. 6. The Trustees shall make an annual report of the financial and general status of the Association at the annual meeting of the Association, and to the Council at its fall meeting and at such other times as the Council may request.

Sec. 7. Absence of a trustee from three consecutive meetings of the Board of Trustees, without an excuse satisfactory to the Council, shall be interpreted as a resignation from the Board of Trustees. Upon receiving notice from the Secretary of such absence, the Council shall proceed to elect a Trustee to fill the vacancy.

Sec. 8. The Council may, at any time it deems it necessary or advisable, direct the incorporation of said Board of Trustees under the laws of the State of California, and the Trustees shall thereupon form and organize such corporation.

C Article XIV—Office

The main office of the Association shall be fixed and located at the City and County of San Francisco, State of California; all books and records of the Association shall be kept at such office and it shall be the office of the Secretary and the Editor.

BY-LAWS

C Chapter III—House of Delegates

Sec. 3. The Speaker shall preside at the meetings of the House of Delegates and shall perform such duties as custom and parliamentary usage require. He shall have the right to vote only when his vote shall be the deciding vote. The Vice-Speaker shall officiate for the Speaker in the latter's absence or at his request. In case of death, resignation, or removal of the Speaker, the Vice-Speaker shall officiate during the unexpired term.

Sec. 10. The Speaker of the house or in the absence of such officer, the chairman of the Council, prior to

each annual session shall appoint a credentials committee, consisting of two members of the House of Delegates and the Society Secretary ex-officio. The function of the committee shall be to register and to pass on the credentials of all members of the House of Delegates, and submit to the House of Delegates a written report or reports, giving the names of all members eligible thereto. Provided, however, that the members seated by the committee shall have the right through two-thirds vote to amend the report or reports of the credentials committee.

Sec. 11. No delegate or alternate whose name has not been certificated in writing as such, by his county unit, through the President and Secretary, and filed in the office of the State Secretary at least fifteen days subsequent to the first of March shall be entitled to a seat in the House of Delegates. The State Secretary shall notify each delegate of his election and forward certificate credentials with notice of Councilor's rulings governing election and penalty for non-attendance; and no delegate absent without prior notification to his County Secretary or Secretary of this Association shall be eligible to a seat in the House of Delegates the following year; and it shall be the duty of the Secretary to mail a list of all absent delegates to the proper county units.

C Chapter IV—Duties of Officers

Sec. 3. The Secretary shall attend the general meetings of the Association, the meetings of the House of Delegates and of the Council, and the Trustees, and shall keep the minutes of their respective proceedings. He shall be ex-officio Secretary of the Council. He shall be the custodian of all records, books and papers belonging to the Association, and shall keep account of and promptly turn over to the depository all funds of the Association which come into his hands. He shall provide for the registration of the members and delegates at the annual meetings. He shall, with the co-operation of the secretaries of the county societies, keep an approved register of all the members of the Association by counties, noting on each his status in relation to his county society. He shall aid the Councilors in the organization and improvement of the county societies and in the extension of the usefulness of this Association. He shall conduct the official correspondence, notifying members of meetings, officers of their election, and committees of their appointment and duties. He shall employ such assistants as may be authorized by the Council and shall make an annual report to the House of Delegates. He shall supply each county society with the necessary blanks for making its annual report; he shall keep an account with the county societies, charging against each society its assessment, and collect the same. He shall in like manner keep an account with each member as to any assessment or assessments levied directly upon each member, and collect the same. As chairman of the committee or scientific program, he shall prepare and issue all programs. He shall perform such other duties as the Council may direct. He shall be appointed by and have his compensation fixed by the Council.

Sec. 4. The depository of the Association shall be a bank or trust company selected by the Trustees. All funds received for the Association by any officer or agent thereof shall be promptly paid to the Secretary and by him deposited with the depository. The depository shall pay out the money of the Association only upon check or draft signed by the Secretary and countersigned by the chairman or other designated member of the Board of Trustees. The Secretary shall issue such checks or drafts only upon vouchers approved by the Auditing Committee and signed by all the members thereof. A revolving fund in such amount as may from time to time be fixed by the Council shall be left with the Secretary, from which fund immediate cash demands may be paid.

C Chapter V—Council

Section 1. The Council shall meet on the day preceding the annual meeting of this Association and daily during its sessions, and it shall also hold at least three other meetings during the year, at least one of which shall be held in the southern part of the State. Special meetings may be called by the chairman at any time, and he shall call a special meeting upon the written request of at least three Councilors, provided written notice of the

time, place and object of the proposed special meeting be given by the Secretary to all members of the Council not less than seven days prior to such meeting. At the meeting held on the last day of the annual meeting of the Association the Council shall reorganize and shall elect a chairman for the ensuing year. The Council shall fill all vacancies in the Board of Trustees. The chairman shall make an annual report to the House of Delegates.

Sec. 2. The Council shall have power to do and perform all acts, transact all business for and on behalf of the Association other than those powers and duties herein or in the Constitution vested in the Board of Trustees. The Council shall also have power to delegate any of its powers as it may determine to the Executive Committee hereinafter provided for.

Sec. 13. The Council shall appoint an attorney-at-law in good standing, practicing his profession in the northern section of California, to act as general attorney for the Association, and an attorney practicing his profession in the southern section of California, to act as assistant general attorney. The general attorney shall so far as possible, attend the sessions of the Council, the Executive Committee, and of the House of Delegates, and shall generally advise and counsel with the Councilors and officers of the Association. The general attorney or assistant general attorney shall have charge of all actions for malpractice against individual members of the Association on behalf of such members, whenever their defense is authorized by the Association, through the Council, the Executive Committee or the Secretary thereof.

Sec. 15. The Executive Committee of the Council shall consist of the President, the President-Elect, the Vice-President of the Association, the chairman of the Council, the chairman of the Auditing Committee, the Secretary and the Editor. The committee shall elect its own chairman, and the Secretary shall act as Secretary thereof. It shall keep a record of its proceedings and report them to the Council, and all of its proceedings shall be subject to the approval of the Council.

C Chapter VII—Committees

Section 1. The standing committees of this Association shall be as follows:

Sec. 7. (f) A Committee on Hospitals.

The Committee on Hospitals shall co-operate in this State with the Council on Medical Education and Hospitals of the American Medical Association and shall have referred to it all questions pertaining to hospitals.

C Chapter VII

Sec. 8. A physician who states he has his major office for professional practice in one county, even though his legal home or residence may be in some other county, may have the option of joining or maintaining his membership in the county medical society of the county in which he has his major office for professional work, or in the county medical society in which he has his legal home or residence.

IV

This Section IV contains a suggested revision of portions of our present Constitution and By-Laws, prepared by the counsel of the California Medical Association (Mr. Hartley Peart), and was introduced in the House of Delegates through the Committee on Revision at the 1927 annual session at Los Angeles.

(For convenience of reference all the proposed Articles of the Constitution belonging to this set IV are indicated by the letter D.)

CONSTITUTION

D Article I—Name and Objects

Section 1. The name of this Association is the "California Medical Association."

Sec. 2. The purposes of this Association are to promote the art and science of medicine and the betterment

of public health. Contributing to this end it shall endeavor to federate and bring into one organization the entire medical profession of California, and to unite with similar societies of other States to form the American Medical Association and such regional associations as its House of Delegates may deem advisable; to extend medical knowledge and advance medical science; to elevate the standard of medical education and practice, and to secure the enactment and enforcement of just medical laws; to promote friendly intercourse among physicians; to guard and foster the interests of its members and to protect them against imposition; and to enlighten and direct public opinion in regard to the great problems of medicine and public health, so that the profession may become more capable and honorable within itself, and more useful to the public, in the prevention and cure of disease, and in the prolongation of and adding comfort to life. This Association as a constituent unit of the American Medical Association hereby recognizes and pledges its support to the Constitution and By-Laws of the American Medical Association and rulings by competent authority thereof.

D Article II—Component Societies

Component Societies shall consist of the county medical societies of the several counties of the State of California, whose constitutions, by-laws, procedure, rulings and activities conform to and are not in conflict with the constitution, by-laws, procedure, rulings, and activities of this Association and which hold unrevoked charters from this Association.

D Article III—Membership

Section 1. The members of the Association shall consist of the following:

(a) Active members who shall comprise all of the active members of each component county medical society. An active member shall have the right of suffrage and all other rights and privileges of the Association.

(b) Affiliate members shall be elected from those Doctors of Medicine engaged in teaching or research work or holding position in federal service or otherwise, who are not licensed to practice medicine and surgery in the State of California and hence are ineligible to active membership. These members shall have all the rights, and privileges of active members except the right to vote or hold office. Their dues to the State Association shall be one-half of the dues of active members, and their dues to their county society shall be fixed by such county society.

(c) Retired members of the California Medical Association may be elected by the House of Delegates; or by the Council, if the nomination is officially sent to the Council by a competent county society.

D Article XII—Incorporation

To aid in carrying out the object of the Association, the House of Delegates at any session of any regular or special meeting thereof, may by a two-thirds vote of the members thereof present and acting, authorize, empower and direct the Council to cause the formation and organization of a non-profit corporation under the laws of the State of California, without capital stock, with such incorporators, name, purposes, objects, principal place of business, term, number of directors and directors to serve for the first year and until their successors are elected, and with such provisions regarding the voting power and property rights and interests of the members of the corporation and such further provisions in the Articles of Incorporation thereof, and with By-Laws and composed of such members representing this Association as the Council shall prescribe, fix and determine. The House of Delegates may at its option in connection with the granting and giving of such authority, power and direction to the Council, prescribe, fix and determine any or all of such matters pertaining to the said corporation, its Articles of Incorporation, and any provision thereof. By-Laws and membership, and its action thereof shall bind the Council; and the House of Delegates at any session of any regular or special meeting thereof may by a two-thirds vote of the members thereof present and acting,

authorize, empower and direct the Council to grant, assign, transfer, convey and deliver to the said corporation upon the formation thereof without any consideration therefor, any property, real or personal, of the Association, which authorization, power and direction may be given prior or subsequent to the formation and organization of said corporation.

D Article IV—House of Delegates

Change to read as follows:

Section 1. The House of Delegates shall consist of (1) Delegates elected by the component county medical societies, (2) the Councilors, and (3) ex-officio the President, President-Elect and Vice-President of the Association, and the Speaker of the House of Delegates.

Sec. 2. The House of Delegates shall be the legislative body of the Association. It shall issue charters to county medical societies which it deems and finds eligible therefor, and may, after notice to any component society and hearing, revoke any such charter for cause. It shall form and group component county societies into Councilor districts. It shall at the regular annual meeting thereof elect the President-Elect, the Vice-President, and the Speaker of the House of Delegates, and in accordance with Constitution and By-Laws of the American Medical Association, it shall elect the Delegates of the Association to the House of Delegates of the American Medical Association.

Sec. 2. The House of Delegates shall be the legislative body of the Association. It shall at the regular annual meetings thereof elect the President-Elect, the Vice-President, and the Speaker of the House of Delegates, and in accordance with the Constitution and By-Laws of the American Medical Association, it shall elect the Delegates of the Association to the House of Delegates of the American Medical Association.

Sec. 3. All sessions of the House of Delegates, other than executive sessions thereof, shall be open to all members of the Association.

Sec. 4. An alternate Delegate eligible to serve if any Delegate of the delegation of a component county society is disqualified or fails to attend the meeting, shall be elected for each Delegate. Delegates and alternates shall be elected by the several component county societies respectively for a term of two years; one-half of the delegates and alternates representing each county society as near as may be shall be elected each year.

D Article V—Meetings

Section 1. The Association shall hold a regular meeting annually consisting of general sessions and section meetings for all members. Such meetings shall be held at such time and place as the Council shall fix and notice thereof and of the time and place of each general session shall be published in the monthly publication of this Association in at least two regular issues thereof preceding such regular meeting.

The general sessions and section meetings shall be devoted to addresses and papers relating to the purpose of the Association, and to discussion and consideration thereof.

Sec. 2. Special meetings of the Association may be called by the House of Delegates or the Council and if so called shall be held at such time and place as the Council shall fix and the same notice shall be given thereof as for the regular annual meeting.

Sec. 3. The House of Delegates shall hold a regular meeting annually consisting of at least two sessions, the second whereof shall be at least twenty-four hours subsequent to the convening of the first session. The regular annual meeting of the House of Delegates shall be held at the same place as the regular annual meeting of the Association, and the Council shall fix the number of and times for the sessions thereof. The same notice shall be given of such meetings and the sessions thereof as that prescribed for the regular annual meeting of the Association.

Sec. 4. Special meetings of the House of Delegates may be called at any time by a two-thirds vote of the members of the Council at any regular or special meeting thereof or by written call filed with the Secretary in the office of the Association signed by one-third of the members of

the House of Delegates. Upon the filing of such call with the Secretary, the Council shall within thirty days thereafter fix the time and place for the holding of such special meeting and cause written notice thereof to be sent by the United States mail, postage fully prepaid to every member of the House of Delegates addressed to him at his office or place of residence as shown by the records of the Secretary's office, at least fifteen days prior to the date of meeting.

Sec. 5. Thirty-five members shall constitute a quorum of the House of Delegates. All meetings shall be held within the State of California.

D Article VI—Officers

Section 1. The officers of the Association shall be a President, a President-Elect, a Vice-President, a Speaker of the House of Delegates, a Secretary, an Editor and fifteen Councilors.

Section 1. The officers of the Association shall be a President, a President-Elect, a Vice-President, a Secretary and an Editor and six Councilors at large and district Councilors as hereinafter provided.

Sec. 2. The House of Delegates at the regular annual meeting thereof shall elect the President-Elect to serve until the adjournment of the final session of the House of Delegates at its next regular annual meeting. At the conclusion of the final session of the House of Delegates at the next regular annual meeting, the President-Elect shall assume the office of President, and serve as such for the term of one year thereafter. The House of Delegates shall at the regular annual meeting thereof elect a Speaker of the House of Delegates, to serve for the term of one year. The President, President-Elect, and Speaker of the House of Delegates shall be ex-officio members of the Council.

Sec. 2. The House of Delegates at the regular annual meeting thereof shall elect the President-Elect to serve until the adjournment of the final session of the House of Delegates at its next regular annual meeting. At the conclusion of the final session of the House of Delegates at the next regular annual meeting, the President-Elect shall assume the office of President, and serve as such for the term of one year thereafter. The House of Delegates shall at the regular annual meeting thereof elect a Vice-President to serve for the term of one year. The President, President-Elect and Vice-President shall be ex-officio members of the Council.

Sec. 2. The House of Delegates at the regular annual meeting thereof shall elect the President-Elect to serve until the adjournment of the final session of the House of Delegates at its next regular annual meeting. At the conclusion of the final session of the House of Delegates at the next regular annual meeting, the President-Elect shall assume the office of President to serve as such for the term of one year thereafter; provided, however, that the President-Elect shall act for the President in his absence or disability and if the office of President become vacant, the President-Elect shall then succeed to the Presidency to serve as such for such unexpired term and for the term of one year thereafter. The House of Delegates shall at the regular annual meeting thereof elect a Speaker of the House of Delegates to serve for the term of one year. The President, the President-Elect and the Speaker of the House of Delegates shall be ex-officio members of the Council.

Sec. 3. The Council at the first meeting thereof held after the adjournment of the last session of the House of Delegates at the regular annual meeting thereof shall appoint the Secretary and the Editor each to serve for the term of one year.

Sec. 3. The Council shall appoint the Secretary and the Editor and shall appoint and engage the Secretary and the Editor and may make such arrangements for such term of years as the Council shall deem expedient, not to exceed five years.

Sec. 5. The term of office of the Vice-President and the Speaker of the House of Delegates and the Councilors (which terms are herein generally stated to be one year or three years), shall commence immediately upon the adjournment of the last session of the regular annual meeting of the House of Delegates at which such officer

was elected and shall continue up to the adjournment of the corresponding session of the year in which the term of office ends. Every officer shall hold office until his successor is elected, and installed in office. No delegate during his term of service as such shall be eligible as President-Elect or Vice-President, but shall be eligible for the office of Councilor, and no person shall be eligible for any office other than Secretary and Editor who has not been a member for two years next preceding his election.

Sec. 5. The term of office of the Speaker of the House of Delegates and the Councilors (which terms are herein generally stated to be one year or three years) shall commence immediately upon the adjournment of the last session of the regular annual meeting of the House of Delegates at which such officer was elected and shall continue up to the adjournment of the corresponding session of the year in which the term of office ends. Every officer shall hold office until his successor is elected, and installed in office. No Delegate during his term of service as such shall be eligible as President-elect or as Vice-President but shall be eligible for the office of Councilor, and no person shall be eligible for any office other than Secretary or Editor who has not been a member for two years next preceding his election.

Sec. 6. Neither the Secretary nor the Editor shall engage in the practice of Medicine while acting as Secretary or Editor respectively; provided that if the Council by a two-thirds vote of all of its members declares that an emergency exists in the matter of securing a competent or desirable Secretary or Editor, then a Secretary or Editor engaged in active practice may be selected for a period of not exceeding one year.

Sec. 6a. No person shall be eligible to the office of Secretary or Editor who does not hold the degree of Doctor of Medicine, but membership in this Association shall not be a necessary qualification for the office of either Editor or Secretary.

D Article VII—Council

Section 1. The Council shall consist of elected Councilors and ex-officio the President, the President-Elect, the Vice-President and the Speaker of the House of Delegates. At the first meeting thereof held after the adjournment of the last session of the House of Delegates at the regular annual meeting thereof, the Council shall organize by the election of one of the Councilors as chairman of the Council who shall serve as such up to the adjournment of the last session of the next succeeding regular annual meeting of the House of Delegates. Nine Councilors shall constitute a quorum.

Sec. 2. Subject only to provisions of this Constitution and the By-Laws and all resolutions and enactments of the House of Delegates, the Council shall be vested with full and complete power and authority to manage, control, use, invest, reinvest, lease, make contracts in respect of, and concerning, convey, give, grant, transfer, or otherwise dispose of all property and assets of whatever kind or nature owned by the Association, and shall also be vested with full and complete power and authority to do and perform all acts and to transact all business for and on behalf of the Association and to manage and conduct all the work and activities of the Association in carrying out the purposes thereof. Through its Chairman, it shall submit a budget for the ensuing year to the House of Delegates, and it shall make a report of its proceedings to the House of Delegates at the regular annual meeting thereof.

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out the purposes thereof. It shall issue charters to County Medical Societies which it deems and finds eligible therefor and may after notice to any component Society and hearing, revoke such charter for cause. Through its chairman, it shall submit a budget for the ensuing year to the House of Delegates, and it shall make a report of its proceedings to the House of Delegates at the regular annual meeting thereof.

Sec. 3. The Council at the first meeting thereof held after the adjournment of the last session of the annual meeting of the House of Delegates, shall appoint an Auditing Committee of three of its members and the chairman thereof to serve for the term of one year. The Council at said meeting shall appoint for one year and fix the compensation of the following officers: A Secretary, who shall be the chief executive officer of the Council and of the Association; an Editor of all publications of the Association; a General Counsel, and an Assistant General Counsel. The Counsel may employ other agents and representatives on an annual basis or for lesser periods, provide their duties and fix their compensation. The term of one year herein provided shall commence immediately on appointment and continue up to the first meeting of the Council held after the adjournment of the last session of the next regular meeting of the House of Delegates. In the event that a vacancy shall occur in the office of Councilor, the Council may appoint a Councilor to serve until an election is held at the next regular meeting of the House of Delegates to fill such unexpired term.

Sec. 4. The Council shall have the authority to delegate such of its powers and duties to the Executive Committee as it shall from time to time determine.

Sec. 5. The Council shall hold such meetings and perform such other duties as are provided by the By-Laws or as the House of Delegates may by resolution prescribe.

D Article VIII—Executive Committee

The Executive Committee shall consist of the President, the President-Elect, the Speaker of the House of Delegates, the chairman of the Council, the chairman of the Auditing Committee, the Secretary and the Editor. The Executive Committee shall elect its own chairman and the Secretary shall act as the Secretary thereof. Four members shall constitute a quorum. The Executive Committee shall aid and assist the officers and the Council in the transaction of the business of the Association in the intervals between the meeting of the Council. It shall have such powers and duties as the Council shall from time to time determine. It shall keep a record of its proceedings and report them to the Council and all of its proceedings shall be subject to the approval of the Council.

D Article IX—Funds and Assessments

Section 1. Funds shall be raised by an equal per capita assessment on each component society. The amount of the assessment shall be fixed by the House of Delegates. Funds may also be raised by voluntary contributions, from the Association's publications and in any other manner approved by the House of Delegates. The Council shall submit an annual budget to the House of Delegates. All resolutions providing for appropriations approved by the Council shall be included in the annual budget.

Sec. 2. No person other than a member in good standing shall have any interest in the property of the Association and the interest of any member shall cease when he ceases to be a member of the Association. If any member shall resign or otherwise cease to be a member of the Association, all of his interest in and to all property and all privileges of the Association shall cease and such cessation of membership shall operate as a release and assignment to the Association of all the right, title and interest of such member in and to all of the property and privileges of the Association.

D Article XIII—Referendum

Section 1. The House of Delegates at any session thereof at any regular or special meeting may by a two-thirds vote of the members present and acting or the

Council at any meeting thereof may by a two-thirds vote of all of its members, submit any question, matter or proposition to all the members of the Association by mail and a majority of the votes cast by mail by members of the Association shall be final and bind and govern the Association upon the question, matter or proposition so submitted to the membership.

Sec. 2. The Council shall prescribe, fix and determine the form of the question, matter or proposition so referred to the members and the time within which such vote shall be cast. All votes must be in writing and mailed or delivered to the Secretary's office. The canvass thereof shall be under the direction of the Council.

Sec. 3. The action of the House of Delegates shall be final and binding upon all members of the Association unless a referendum as herein provided, is voted by the House of Delegates at the same meeting thereof at which the action was taken or the vote or resolution was had or adopted, or unless the Council by a two-thirds vote of all its members, shall within the period of thirty days after adjournment of such meeting of the House of Delegates vote to hold a referendum on such action, vote or resolution of the House of Delegates.

D Article XIV—Seal

The Association shall have an association seal consisting of a circle having on the circumference the words "California Medical Association, Eureka, 1865," with such further emblems, figures and words as the Council shall prescribe.

D Article XV—Amendments

Any member of the House of Delegates at any session or any regular annual meeting thereof may present an amendment or amendments to any article or articles or any section or sections of any article of this constitution. Such proposed amendment or amendments must be in writing and shall be filed with the Secretary and shall thereafter be published at least twice in separate issues of the monthly publication of this Association. At the first regular meeting of the House of Delegates thereafter held, such proposed amendment or amendments may be submitted to the House of Delegates and if two-thirds of the Delegates present and voting, vote in favor thereof, the same shall be adopted. The House of Delegates may, however, by majority vote continue the consideration of and vote upon any proposed amendment or amendments, to the next succeeding annual meeting, and in such event the same publication thereof shall be made as above provided. At the time that any proposed amendment is under consideration by the House of Delegates for adoption or rejection, the House of Delegates may by two-thirds vote of members thereof present and acting adopt amendments to the proposed amendment consistent with and germane to the purpose thereof. And the adoption of any amendment or amendments to the proposed amendment by the House of Delegates by such vote shall be conclusive that the same is or are consistent with and germane to the purpose of such proposed amendment; subject only to referendum as herein elsewhere provided.

D Article XV—Enabling Amendment

Amend Article XII of the Constitution relating to Amendments by striking out the existing article and substituting in lieu thereof, the following:

The House of Delegates at any annual meeting including the meeting at which this amendment is adopted may amend any article of this constitution by a two-thirds vote of the delegates present and acting; provided that any amendment to the constitution is submitted in writing and laid on the table for twenty-four hours previous to being considered and acted upon.

D Article XV

Repeal of All Provisions of Present Constitution

Section 1. All articles and all sections of all articles of the existing Constitution are hereby repealed.

